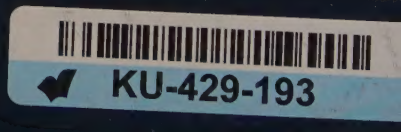
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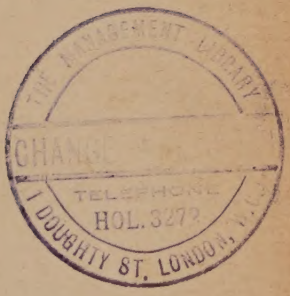

LONDON EDUCATION

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BY SIDNEY WEBB

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PREFACE

The Education Acts of 1902 and 1903 make, for the first time, all grades of education a public service. To construct a complete educational organisation for a city of five millions is no light task. This little book is an attempt to survey some of the problems thus presented to the London administrator.

Its subject-matter is, therefore, not politics but administration. It does not discuss what the law ought to be, or what we should like it to be, but the practical problem of organisation under the law. The parliamentary candidate, the party leader, and the statesman have, necessarily and legitimately, other considerations to take into account, in education as in all branches of the public service, besides administrative efficiency. Those considerations, important in their own sphere, find no place in these pages. To prevent misapprehension, I must therefore

state, once for all, that if I avoid in this book, as far as possible, the religious and political controversies connected with education, which Parliament has to settle, this is not because I am contented with the law as it stands.

However cordially we may welcome the unification of education under a single local authority, however valuable we may think the extension of the powers of this authority to all grades and all kinds of education, no practical administrator can regard the Acts of 1902 and 1903 as anything but imperfect instruments. The very fact that they arouse an intense feeling of dislike in many thousands of citizens is, in itself, a drawback to their efficient working. I need hardly say that, in the various respects in which I regard them as defective, I want these Acts amended at the earliest possible date. But I for one intend to keep politics—even educational politics—apart from administration. Whatever we may think of the policy of the new Education Acts, or of the likelihood of their being amended, the smooth running of the existing educational machinery must, at all hazards, be maintained under the new law as under the old one. Moreover, in this rapidly moving world, merely to

maintain the *status quo* is to fall behind. We cannot afford to let London education mark time this year, or next year, or the year after, pending the possible transfer of political power from one party to another. Whoever may be chosen to administer London's thousands of schools, and to direct its million of scholars, must necessarily work out some plan of educational organisation under the law as it is for the time being, and shape that organisation according to some administrative policy.

Looked at as a mere matter of civic administration, London's educational service is, at this moment, plainly inferior in efficiency to its police or its fire brigade, its lunatic asylums, or even its water supply. The educational provision is scrappy and disjointed; its fragments are ill-adjusted and unco-ordinated; it is uninspired by any vivifying principle; there are great gaps in some directions and redundancies and duplications in others. It is therefore not surprising that in spite of an expenditure every year of four millions of public money, and a large but unknown amount of private money, London education falls far short of decent efficiency at many points. It fails alike at the

bottom and at the top—we succeed neither in maintaining a high level of common schooling for all London's children, whatever their poverty or the creed of their parents; nor yet in disseminating culture, developing reasoning power, or promoting original research. The time has come when London, in this matter of educational organisation, must, with a single eye to educational efficiency, deliberately set its house in order.

SIDNEY WEBB.

41 Grosvenor Road, Westminster,
December 1903.

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CHAPTER I

THE EVOLUTION OF AN EDUCATIONAL SYSTEM[1]

FEW Londoners yet realise the extent of the change in educational machinery which the Act of 1903 brings about on the "appointed day." London has hitherto had no education authority, and no organisation of education as such. The School Board, though not limited in its expenditure, has been neither charged nor permitted to deal with education, but only with elementary education. It has been legally authorised, as we now learn, to provide this elementary education only for children; to provide it only in its own schools; and to provide it only subject to such limitations and restrictions as the Board of Education might choose to impose. On the other hand, though the County Council, by its Technical Education Board, could legally give

[1] The substance of part of this chapter appeared in the *Nineteenth Century and After* for October 1903, and I am indebted to Sir James Knowles for permission to make this further use of it.

education of as advanced a grade as it chose, it was expressly forbidden to do anything for children; it could pay only for such subjects as were included in a queer statutory definition of technical or manual instruction; and it disposed only of a definitely limited fund. These narrow limits, rigidly interpreted by the auditors of the Local Government Board, have proved a serious hindrance to London education. There has been, for instance, no local authority which could start a new secondary school, or set up a residential training college for teachers, or bring under any sort of control the Church or Wesleyan or Roman Catholic schools. Until the new Act comes into force the School Board finds itself peremptorily stopped from opening a new evening school or (in spite of the dearth of teachers) adding even a pupil-teacher centre. Above all, London is, until the 1st of May 1904, without any public body able to deal with education as a whole.

On the "appointed day" this legal chaos is brought definitely to an end. The cramping limitations and restrictions disappear. Education, *as education*, becomes a function of the local authority—not the education of the poor alone or the education of the craftsmen; not elementary education merely, or technical educa-

tion, or any other grade or kind of education, but just "education." The new local authority is thus empowered to provide anything and everything that it deems necessary in the way of education—physical, mental, moral, elementary, secondary, university, manual, literary, artistic, scientific, commercial, technological, or professional—without restriction of subject or kind or grade; without limit of amount or cost; and without distinction of class or race or creed or sex or age. To the London County Council, as the directly elected executive body of the people of London, is given the power and the duty, subject to few conditions and practically no limitations, of equipping London with a complete educational system.

Let us, before exploring the conditions of this great task, cast a backward glance, and discover by what stages London has advanced to this point. Much, indeed, has been done to prepare the ground for the new work. The transformation effected in the course of three-quarters of a century in the manners and morals of the London manual working class is one of the most remarkable chapters of social history. Nothing but the unimpassioned revelations of the Blue-books, or the incidental references of contemporary newspapers to what

they took as a matter of course, can give an adequate vision of the abominations that, within the memories of men still living, prevailed in all the working-class quarters — two-thirds of the whole child population growing up not only practically without schooling or religious influences of any kind, but also indescribably brutal and immoral; living amid the unthinkable filth of vilely overcrowded courts unprovided either with water supply or sanitary conveniences, existing always at the lowest level of physical health, and constantly decimated by disease; incessantly under temptation by the flaring gin-palaces which alone relieved the monotony of the mean streets and dark alleys to which they were doomed; graduating almost inevitably into vice and crime amid the now incredible street life of an unpoliced metropolis. It was with this problem, only partly alleviated in its gravity, that the educational reformers of 1860 and 1870 had to grapple. It is, in the main, out of this material that the present working-class population of London—taken, as a whole, perhaps the least turbulent, the least criminal, and the most assiduous in its industry of any of the world's great capitals—has been fashioned.

In this arrest of a nation's suicide, what influences have been most potent? We do not

need to dwell upon the organisation of a preventive police, the elaboration of the sanitary code, and the ever-increasing regulation of the conditions of factory employment. But, potent as these remedial agencies have been, it is not by inhibition alone that men and women are rescued from deterioration. Hence the heroic efforts to establish church schools and chapel schools, night schools and ragged schools; and the gradual development of these by Government grants until more than a hundred and fifty thousand children were under their influence. Like all voluntary effort, this work was patchy, unorganised, and of very varying quality. It left, even at the period of its greatest development, two-thirds of the boys and girls outside its scope. Not until the establishment, under the Education Act, 1870, of the London School Board, was there any systematic attempt to rescue the whole of the children of London. Thus it is that to the School Board for London has fallen by far the largest share in the beneficent transformation. By the persistent efforts of its army of attendance officers it has, at last, got London's 800,000 children to school. The voluntary schools stand, numerically, almost precisely where they did in 1870. It is the School Board which has provided the buildings

for the half a million additional scholars brought under the wonderful discipline of the public elementary school. These five hundred new public buildings, occupying 600 acres of valuable land, existing now in every one of London's fifty-eight electoral divisions, four to the square mile of the whole of London's surface, erected at a cost of fourteen millions sterling, constitute by far the greatest of our municipal assets. And improvement in quality has kept pace with increase in quantity. It is, in the main, to the School Board that London owes the transformation which has, in these thirty-three years, come over its elementary schools—the change from frowsy, dark, and insanitary rooms, practically destitute of apparatus or playgrounds, in which teachers, themselves mostly untrained, mechanically ground a minimum of the three R's required by the wooden old code into the heads of their scanty pupils, to the well-lighted and admirably decorated school buildings of the present day, with ample educational equipment, with pianos, school libraries, extensive playgrounds, etc., served by a staff of trained professional teachers, encouraged to develop the growing intelligence of their scholars in whatever subjects and by whatever educational methods they find best.

Yet great as was the stride taken by the

establishment of the London School Board, the dominant idea was still merely the education of the poor; really, the rescue of children from the abyss. In the Government Code of 1860 the object was expressly limited to "the education of children belonging to the classes who support themselves by manual labour," and as late as 1868 minute regulations were framed to admit the sons of policemen and porters, but to exclude from the public schools those of excisemen, clerks, and the humblest shopkeepers. The proceedings of 1870 were full of the same idea. It is refreshing to study the plucky audacity and persistence by which the London School Board, largely through the imperturbable zeal and ingenuity of Mr. Lyulph (now Lord) Stanley, has forged its way through Government red tape and the grumbling of Philistine ratepayers across all these social barriers to higher grade schools and advanced evening classes. For some years this audacity seemed to receive the sanction of the Education Department. Then came friction, resistance, and estrangement. In the end the courts were driven to decide that the legislators of 1870 had not authorised more than the elementary education of mere children. The limitation thus practically reimposed by the judges in 1900-1 was,

as we now see, not due to any special perversity, but to the historical fact that English public education, unlike that of Scotland or Switzerland, had its origin in what I have termed rescue work.

Meanwhile the community had been approaching the problem from another standpoint. England experienced successive waves of uneasiness about the supposed lack of craftsmanship in the British workman, and the deficiency in technical knowledge of the foreman and superintendent. First, as usual, came voluntary effort—the early mechanics' classes, the technical colleges of the City Companies, Quintin Hogg and the polytechnics; presently to be magnified by the dramatic "rolling up" of the City parochial charities under Mr. Bryce's Act. Then, at last, the London County Council, reluctantly taking up the duty put upon it by the Technical Instruction Acts, began to spend its "whisky money." Beginning where the legal powers of the School Board ended, the Council, through its Technical Education Board, has, during the last ten years, laid down the lines of a highly complex system of specialised education, partly in the dozen great polytechnics, partly in its own technical institutes and art schools, and culminating in the technical faculties of the reorganised University of London.

But, with all this, London was still without an authority competent to deal with education as a whole. Fifty years ago, Matthew Arnold, crying in the wilderness, pointed out the absurdity of confining collective action to this or that particular grade of education, or to any one section of the community. Imperceptibly public opinion gained a new point of view. The leaders of all the political parties unconsciously absorbed the idea that national efficiency depended on our making the most of the capacities of the whole population, which form, after all, as truly part of the national resources as our iron and coal. Indeed, as we now see with painful clearness, we have, in the long run, for the maintenance of our pre-eminent industrial position in the world, nothing to depend on except the brains of our people. Public education has, therefore, insensibly come to be regarded, not as a matter of philanthropy undertaken for the sake of the individual children benefited, but as a matter of national concern undertaken in the interest of the community as a whole. It is this notion which has, almost without the notice of the controversialists, been embodied in the Education Acts 1902-3. We no longer prescribe, as the sphere of the local education authority, "elementary education," or "technical

education," or any other kind or grade of education. Thus the task of the new Education Authority for London is very different from that hitherto undertaken either by the School Board or the Technical Education Board. It is called upon to endow London with a complete educational system. To give to each of London's 800,000 children during the years of compulsory school attendance the most effective physical, moral, and intellectual training; to develop in them the utmost mental acquisitiveness; to arouse in as many as possible of them the indefinable quality that we call resourcefulness, initiative, inventiveness, or the capacity for meeting new conditions by new devices; to provide for the whole of them the widest possible opportunities for continuing their studies after leaving the day school; to carry on, by a "capacity-catching" scholarship system, all whose brains make it profitable for the community to equip them with more advanced instruction; to organise, as well for these scholarship-holders as for all others able to benefit by it, an efficient and duly varied system of secondary and university education, whether predominantly literary, scientific, artistic, commercial, technological, or professional in type; to provide the best possible training for teachers of every kind and grade; and so to organise the

whole machine as, while increasing knowledge and efficiency, to promote everywhere the development of character and culture, and ultimately to encourage the highest scholarship and the most advanced research — all this, and nothing less than this, is the duty which Parliament has committed to the London County Council.

How much is yet accomplished towards that great task? To "take stock" of London educationally seems to be the first need of the new Education Authority. It was the comprehensive survey of London's technical education, made for the County Council by Mr. Llewellyn Smith in 1892, which made possible the successful ten years' work of its Technical Education Board. A similarly comprehensive survey of London education as a whole, as it stands in 1903, would be of inestimable value to the new Education Committee. It is an inevitable characteristic of educational administration in so vast an area that those who are interested in it have seldom had personal experience of, or come closely into contact with, more than a small portion of the field. One member knows about elementary schools, another almost exclusively about secondary; one is interested in the teaching of science, and is quite unaware of the progress made in

drawing or modern languages; others, again, have governed boys' schools, but have hardly an idea of what is required for infants or for girls, and may be only dimly aware of the technical college or the university. No complete or systematic description of the educational institutions of London at present exists.

To begin with the broad base of the public elementary school, such a survey would, I think, show that the great task committed to the School Board in 1870 has been at last accomplished; that, of the child population living in houses under £40 rental, practically all are now either on the rolls of schools recognised as "efficient" or otherwise accounted for; and that, roughly speaking, there is a school place for every child. This does not mean that there need be no more building of schools, even if London's child population continues stationary, but that such buildings may, broadly speaking, henceforth be confined to coping with the shifting of the people from the centre to the suburbs, and to the necessary substitution, as time goes on, of new schools for old ones. At least a quarter of the present public elementary school buildings of London are old and insanitary, and will have to be rebuilt, if not by the foundation managers out

of private subscriptions, then as "provided schools" at the public expense.

Passing from the buildings to their inmates, it will be found that the children are, taken as a whole, more regular in their attendance than they have ever previously been, the average in 1902-3 being 85·6 per cent. This, however, is not satisfactory. If several dozen schools in London, some in poor districts, can maintain an average attendance of between 90 and 95 per cent; if all Leicester can achieve 88·7 per cent, and the whole of sparsely peopled Westmoreland 89·3 per cent, London cannot remain content with only 85·6, which means that there are at all times over 120,000 children away from school. What is even more unsatisfactory is that a great part of the absences are made by the same 6 or 8 per cent of "regular irregulars" —a body of perhaps 50,000 children who, by habitually missing half the possible attendances, escape most of the educational discipline of the school. Much has been done by the School Board of late years, largely at the instigation of Dr. Macnamara, to look after these children, and various improvements are already in progress. More can be accomplished when the visitors are more closely associated with the teachers, with a view to promptly visiting every

absentee, and when the voluntary schools, where the attendance is much below that of the board schools, are brought under the same central control.

Having got our children to school, the supremely important question remains: What is the quality of the education there given to them? On this point no materials exist for any confident answer. Since the abolition of the individual examination of the Government inspectors, no common measure has been applied to all the schools, and there is no statistical evidence to appeal to.[1] If, indeed, we confine our attention to the best hundred of the board schools, with their splendid new buildings, their unstinted equipment, their specialised departments, their completely trained staffs, and their energetic headmasters or headmistresses of the modern type, some complacency can be excused, for it may be doubted whether there is anything in the world equal to them.

Even if we survey the whole of the board schools, educating five-sevenths of the children,

[1] On the School Board itself there have been grave searchings of heart as to whether the greater freedom now allowed to the teachers, beneficent as the change has been on the whole, may not have resulted, in all but the best schools, in a serious falling off in the accuracy and thoroughness with which the elementary subjects are taught. See the significant report, and the still more significant evidence, of the Special Sub-Committee of the School Management Committee, 1902.

these may, with their high average of excellence of buildings and equipment, and their superiority in proportion of fully-trained teachers, safely challenge comparison, taken as a whole, with the schools of any other English town. But the difference in real educational quality between the best and worst London board school is pretty considerable, and it may be doubted whether anybody but the School Board's own inspectors knows how unsatisfactory the worst schools are, or what proportion the bad ones bear to the whole. Still greater divergencies exist among the 500 voluntary schools, which educate two-sevenths of the children. It would seem as if, speaking generally, the few Jewish schools, nearly all the Wesleyan and British schools, and the best score or so of the Church schools are of good average efficiency. But there is no resisting the inference that nearly all the hundred Roman Catholic schools, and probably 300 of the 331 Church schools—having, in the aggregate, more than 150,000 children—are, so far as secular education is concerned, calamitously behindhand. It is not merely that their buildings are inferior and antiquated, their equipment and furniture insufficient, and their teaching staffs inadequate and in too many cases inefficient.

What is more serious is the extent to which these schools have fallen behind in educational ideas and methods; their inability to provide adequate instruction in the upper standards; and their comparative failure in such subjects as elementary science and drawing. No child in these 400 schools has any practical chance of winning a scholarship under any system of open competition, and is thus inevitably debarred, however gifted it may be, from access to higher education. Putting together what little is really known of all the thousand public elementary schools of London, including both board and voluntary, there are competent observers who declare that nearly half of them, containing about a quarter of all the children, would probably be condemned as inefficient, either in respect of buildings or sanitation, of staffing or equipment, of curriculum or real success in child-training, by a Swiss, a Danish, a Saxon, a Prussian, or a Massachusetts school inspector.

So grave a condemnation of the schools in which 200,000 London children are being educated—a greater number than the whole child-population of Manchester and Birmingham together—will come to most people, as it did to the present writer, with the shock of surprise. We must with all speed find out whether it is

borne out by the facts. We simply cannot afford to leave 200,000 London children to this fate. At the same time we must take care to maintain, and even to multiply and improve, the excellent higher grade, higher elementary, and other superior schools which set the pace to the rest.

Any general levelling up of the London elementary schools will bring the County Council face to face with the most pressing of educational problems, the supply and training of teachers. The present practice of the School Board of appointing to its permanent service none but fully trained teachers will, of course, be adopted by the County Council for all the schools. But this will be to raise the number required by nearly one half, and to demand, for London alone, more than 40 per cent of the entire annual output of all the training colleges in England and Wales put together, and more than twice that of those situated in the London area. With the growing demand of the other counties and county boroughs, it is clear that London cannot possibly continue to get even as many as heretofore, let alone half as many again. There is already something approaching to a teacher famine. More than a hundred vacancies in the School Board's own staff remain month after month

unfilled. It is only by each county training as many teachers as it needs (not in the least implying that each county should employ only those whom it has trained) that the total supply can be kept up. London, in fact, must somehow get established, primarily for its own supply, additional training college accommodation equal to an annual output of 500 teachers, chiefly women.

So far, no controversy arises among those acquainted with the needs; and we may confidently expect the London County Council to provide what is required. But there is as yet no agreement whether we should add to the number of residential training colleges, in which the future teachers are boarded, lodged, and instructed in a sort of "seminary" fashion, or whether we should simply enlarge six- or eightfold the existing "Day Training College" established in connection with London University, in which the students live at home or in lodgings, and, whilst provided with special pedagogic training, obtain their academic instruction as ordinary students in the various university colleges. Strong arguments are urged in favour of both systems. The residential training college, when at its best, offers many advantages to the London boy or girl of

eighteen, coming from an artisan or lower middle class home. The removal from the crowded household in a monotonous street, from the often narrow outlook of the family life, with somewhat restricted diet and scanty exercise, to an institution in the fresh air and generous space of the country, with a common table, and a collegiate life, with all its training in manners and discipline, under a regimen specially devised for healthy development of body and mind, inspired, we may add, by corporate traditions, and by the personal influence of a highly selected staff—all these circumstances have, in the past, made the two or three years at such colleges as that of the old "Borough Road," at Isleworth, or for women at Stockwell, a veritable stride forward in health, conduct, and culture to the young men and women who were fortunate enough to gain admission to them. But there are drawbacks. The establishment of a dozen new Stockwells or Isleworths would mean a capital expenditure of half a million. Moreover, the segregation, for two or three years, of young men or young women, all of nearly the same social class and the same antecedent education, all bent on passing the same examinations and intending to follow the same occupation, all taught the same subjects by the

same teachers—is not calculated to give either breadth of culture or knowledge of life. The alternative of a Day Training College, attached to a university, offers, it is said, at any rate to the abler and better educated of the pupil-teachers, a far more valuable training. The pupil-teachers entering, in London, University College or King's College, Bedford College or the School of Economics, as ordinary undergraduates, working for a degree in one of the faculties of the university, attending the lectures of men of distinction, and mixing, so far as university students in London mix at all one with another, with undergraduates of other antecedents, other faculties and other vocations in life, cannot fail to get a broader and more humane education than is possible at even the best seminary. The balance of advantage seems on the side of the university Day Training College. Its drawbacks are that only the ablest of our future teachers in elementary schools are at present sufficiently well educated to profit by the university curriculum; and that the pedagogic work which they necessarily have to add to that of the ordinary undergraduate makes it a severe strain upon them. And there is the practical difficulty of absorbing, in the existing university colleges of the

metropolis, anything like so large a number as 1500 additional teacher-undergraduates. The inference seems to be that we must, in London, adopt both plans, making the best of each of them—on the one hand, enlarge as rapidly as possible the present excellent nucleus of a Day Training College, admitting both secondary and elementary school teachers, securing, in some way or another, the necessary corresponding enlargement or multiplication of the existing university colleges (especially getting one established in South London), and providing residential hostels for such students as need them; on the other hand, grasp eagerly at any opportunity of establishing in the country round London two or three new "Stockwells" for those London girls who find themselves excluded from existing residential colleges because they are not members of the Anglican or Roman Catholic Church, and whose needs and circumstances make the university Day Training College unsuitable.

The provision of training colleges is, however, only half the problem. Between fourteen, the age of leaving the elementary school, and eighteen or nineteen, that of entering the training college, the future teachers have to be caught, broken in to teaching work, and given

some sort of secondary education. Hitherto we have relied for this on the pupil-teacher system. This system, as it was, and as in many country districts it still continues to be, may fairly be denounced as a combination of child-labour and soul-destroying intellectual drudgery unworthy of a civilised nation. The boy or girl of thirteen, who a few weeks previously had been in the sixth standard, was often put straightway in charge of fifty or sixty younger urchins, whom he or she sometimes learnt to control and discipline, if not to teach, in a marvellous manner. At fourteen he or she would be regularly apprenticed to the teaching trade, receiving a few shillings a week, and being supposed to be instructed by the head-teacher. For the next four or five years the pupil-teachers would be slaving all day in the exhausting task of school-teaching, struggling with the large classes in the lower standards; and cramming up in the evening the woodenest of text-books with the scantiest of tutorial assistance, in order to pass the Government examinations on which depended their whole professional careers. It is difficult to imagine a more cruel and less enlightened way of preparing those who are to become the intellectual guides and inspirers of the masses. Fortunately,

the whole system is in course of transformation, and the London School Board has long treated its pupil-teachers very differently. Yet notwithstanding all that is done for them, even in London the recruits fall short of the numbers required. To fill the annual vacancies among its assistant teachers, London needs, probably, 2000 new pupil-teachers a year, one-third boys and two-thirds girls, allowing for the percentage which drops out by the way. The School Board gets only about eight hundred and fifty and the voluntary schools perhaps half that number. With both the deficiency is greatest on the male side. The London boy has, in fact, nearly ceased to enter the teaching profession. In all London last year, with close upon five millions of people, the number of boys who became pupil-teachers in any kind of school did not reach two hundred.[1]

[1] Apart from the objections to attracting any continuous stream of immigrants to the already overcrowded metropolis, the extent to which whole sections of London's services are habitually recruited from the provinces is disquieting in its restriction of the opportunities practically open to the London boy. There is reason to infer that less than a third of the vacancies for male assistant teachers in London are filled by London boys. The competitive examinations for entrance to the great services of the Customs and Excise show an overwhelming proportion of non-Londoners among the successful candidates. Few London boys enter for the national scholarships for science and art teachers. In other spheres it may be noted that both the porters and clerks of the wholesale drapery houses are largely drawn from the country ; that the London police are largely

Instead of remedying this dearth of pupil-teachers, the Board of Education has just issued new regulations, which revolutionise the whole system. The pupil-teacher of fourteen or fifteen, as he exists to-day, is peremptorily abolished. The future teachers are henceforth to devote themselves exclusively to secondary education up to the age of, at least, sixteen; and their period of actual apprenticeship is limited to two years, which may begin as late as nearly eighteen years of age. The whole of the regulations point to an intention on the part of the Board of Education to make it impossible for the pupil-teacher of the future to be taken straight from the elementary school. However much we may welcome the spirit of this revolutionary change, it involves, even in London, and much more so elsewhere, some difficult readjustments. The present scarcity of pupil-

recruited from the country: that the Metropolitan Fire Brigade is nearly wholly drawn from sailors, comparatively few of whom are London-born; and that such a typically London industry as the building trade takes, nowadays, hardly any boys, and is mainly recruited by young journeymen from elsewhere. It must be remembered that the London boy seldom starts as a teacher, clerk, policeman, fireman, porter, bricklayer, or carpenter in any other town. It will be deplorable if we have to infer that, apart from the great army of junior clerks, it is the still greater host of dock and other unskilled labourers which is recruited in the largest proportion by Londoners. We should at any rate take care that the London boy has the first steps to the entrance of all skilled occupations and professions made genuinely accessible to him.

teachers shows that the payment made to them between fourteen and eighteen cannot be reduced, and ought rather to be increased, especially for boys. The new Education Authority will therefore not only have to see that a sufficient number of efficient secondary schools are available for the appropriate instruction up to sixteen of all its future pupil-teachers. It will also have to pay them, in a new form, at least the equivalent of the wages which they have hitherto received up to that age, nominally in return for their services in the school. It looks as if the London County Council, merely in order to keep up the necessary supply of pupil-teachers, would find itself compelled to increase its junior county scholarships to 2000 a year, and to give two-thirds of the total number to girls, perhaps confining the last thousand to candidates who undertake to complete their pupil-teacher apprenticeship, and possibly modifying for such candidates its financial regulations.

The scholarship system which the Board of Education's new pupil-teacher regulations will thus revolutionise is one of the most successful developments of the past decade. Every year about eight hundred of the ablest boys and girls in the public elementary or lower secondary schools, between eleven and thirteen years of

age, are picked by competitive examination for two to five years' higher education. These 2000 scholarships provide for the cleverest children of the London wage-earners a more genuinely accessible ladder than is open to the corresponding class in any American, French, or German city. In addition to these maintenance scholarships there are free places at most of the London secondary schools, from St. Paul's downwards, which are utilised, as is found to be the case with all provision of merely gratuitous secondary education, by the "lower-middle" and professional classes. Above these opportunities stand the intermediate and senior county scholarships, and others provided by various trust funds, probably altogether about six hundred in all, for candidates between fifteen and nineteen years of age. These serve partly to carry on the best of the junior scholars; partly to admit to the superior secondary schools the ablest children of parents ineligible for the lowest rung of the ladder; and partly to take the very pick of London's young people to the technical college and the university.

This scholarship scheme has now necessarily to be revised, to bring it into accord with the changes lately made in the school-leaving age and the pupil-teacher system. Practically all

children now stay at school until fourteen, and it is no longer necessary for any substantial payment towards the maintenance of the poor scholar to begin before that age. On the other hand, there is a consensus of opinion that, when a child passes from an elementary to a secondary school, it should do so before the age of twelve, and should remain for not less than four years. It looks as if the limit of age for the normal junior scholarship should be reduced from thirteen to twelve, and its duration extended from two to four years, whilst the annual maintenance allowance up to the age of fourteen might be reduced to £5, rising to £10 and £15 in the last two years. And if the need for pupil-teachers causes the number of scholarships to rise to 2000 a year, it would perhaps be possible to effect the further desirable reform of beginning the selecting process by a preliminary examination, conducted by the head-teachers themselves, in their own schools, of all the children who had attained the fifth standard before the age of twelve; and of undertaking to award the scholarships, not to any fixed number of winners, but to all who, in the subsequent centralised competitive examination, reached a certain percentage of marks. Such a reform would organically

connect the scholarship system with all the public elementary schools, instead of, as at present, only about a third of them; and would bring London's "capacity-catching machine" to bear on every promising child.[1]

There must, however, be an adequate supply of efficient secondary schools for these picked scholars to attend, not to mention the needs of those who can afford to keep their boys and girls at school until seventeen or nineteen. There is a common impression that the public secondary schools of London are few and inefficient. Yet, including only foundations of which the management is essentially public in character, London has to-day certainly not less than 25,000 boys and girls between seven and nineteen in its secondary schools, actually a larger number than either Paris or Berlin. In the background, and not included in this calculation, stand, in varying quality, the private "commercial academies" and "colleges for young ladies" of the genteel suburbs. To these is left the opportunity of justifying their existence by catering for special needs, and supplying

[1] The present supplementary system of scholarships and exhibitions for special proficiency in science, art, and technology, as well as that for domestic economy pupils, should, of course, be continued, and even increased, with special provision for late development of talent and exceptional genius.

a desirable elasticity to the necessary rigidity of any public system. The publicly managed schools number no fewer than eighty-five, well dispersed over the whole county, ranging from those like Parmiter's School (Bethnal Green) and Addey's School (Deptford), where the age at leaving is never more than seventeen, through the dozen admirable institutions of the essentially public Girls' Public Day School Company, up to such thoroughly efficient "first-grade" schools as the North London Collegiate, for girls (St. Pancras), and Dulwich College (Camberwell) and St. Paul's (Hammersmith) for boys, which take rank among the very best that England contains. Yet so dense is London that, with one or two exceptions, the very existence of these schools is forgotten by the ordinary citizen, and is often ignored by the legislator or administrator. Many a middle-class family which could well afford to send its boys and girls to secondary schools is unfamiliar with those which exist within a mile of its home. Even to the best-informed educational administrators the real state and quality of the London secondary schools, taken as a whole, are far less accurately known than those of the elementary. All the information points to the conclusion that the efficiency varies immensely from

school to school; that nearly all of them have good buildings, mostly well provided with science laboratories and suitable equipment; and that, where any school falls below the mark, the weak point is the staffing. In at least a third of the London secondary schools the income from fees and endowment is insufficient to provide more than one good salary, which goes to the head-teacher, whilst the assistants, who ought to be university graduates, are paid, for the most part, less than is earned by an ordinary certificated teacher in a board school. Yet, even recognising all the shortcomings of these schools, the department of secondary education is not one which will give the London County Council any serious trouble. About half of the publicly managed schools are sufficiently well off to be independent of its aid, and these, nearly always charging high fees, and providing an education of high grade, may be left to themselves. The other half, including practically all those in need of help, have already shown by their cordial co-operation with the Technical Education Board their willingness to fall into line. It would, of course, be unnecessary to disturb the present governing bodies, on which the local authorities are already well represented, and it would be unwise for the Council to interfere in the details

of administration. In no department is it so important to maintain variety and independent experiment as in the secondary schools. The policy should be one of very strenuous organising, supervising, criticising, subsidising, and advertising. What needs to be insisted on is that every secondary school should attain a high level of efficiency in its own particular line; that the quality of the work should be systematically tested by thorough public inspection, if not also by the new "school-leaving" form of the London matriculation; that any shortcomings in buildings, equipment, and curriculum should be promptly made good, and that, in particular, the science, drawing, and modern languages should be specially attended to; that accommodation be found, either by enlargements or by the establishment of new schools, for the necessary addition to the number of scholarship holders; and, it may be hoped, also for the growing number of ordinary pupils; and above all that an adequate scale of qualifications and progressive salaries be adopted for the teaching staff, so that all future vacancies may be filled by the appointment of men or women of education and professional training, whose remuneration and prospects will be such as to secure stability and continuity of work.

But construct what scholarship ladder we will, the secondary schools can be used only by a small fraction of the population. For the secondary education of the masses there has been organised, by the School Board on the one hand, and the London County Council on the other, an extensive assortment of evening classes; providing instruction in every imaginable subject of literature, science, art, and technology. The classes of the School Board, which enrol over 130,000 students for the winter session and have an average attendance of half that number, are conducted in 400 of its day-school buildings, mainly by the younger and more energetic of its staff of day teachers. The work of the Technical Education Board, dealing usually with a more advanced stage and older scholars, is concentrated in the fifty polytechnics, art schools, and technical institutes under its management or control, which have in the aggregate about 50,000 students. Here the lecturers and teachers are specialists in their respective subjects, teaching in institutions specially equipped for their work. At six of the polytechnics, the highest classes have been included in the faculties of the reorganised London University, and duly matriculated evening students obtain first-class university

instruction in their own neighbourhood, and are enrolled as "internal students" of the university itself. These two schemes of evening instruction have now to be co-ordinated, differentiated, and developed. There can be no question of stopping either one or the other; on the contrary, both sides of the work will have to be increased. It ought not to be too much to ask that every boy or girl who leaves school at fourteen or fifteen should, up to twenty-one, be at any rate enrolled at some evening-class institution, even if attendance is confined to an hour a week. Yet there are in London over 600,000 young people between fourteen and twenty-one, and not a third of these are at present members of any sort of institution, recreational or educational. Out of 84,000 boys and girls between fifteen and sixteen, only 21,000 are on the rolls. What is happening to the others? We cannot, as yet, compel them to come in, as the Bishop of Hereford proposes, though this is done in various parts of Germany and Switzerland. But we might try the experiment of using the school attendance officers to look after those who have not joined an evening school, using the method of persuasion, just as they look after the younger defaulters from the day

school. This, of course, means a large addition to the present staff. Meanwhile we could bring the whole of the evening instruction in each borough into a single harmonious organisation; we could allocate the work in such a way as to provide appropriately for each age and each grade, and avoid overlapping; we could take care that each subject is taught under the most effective conditions, and properly co-ordinated with more advanced instruction elsewhere; and we could arrange for the progression of the students from stage to stage, until they reach the highest classes of the nearest polytechnic, or the technical college itself.

Finally, we reach, as the crown of the whole educational system, the newly reorganised University of London, with its 600 professors in eight different faculties, its twenty-five constituent colleges, and its score or more of other affiliated institutions, several of which are more important than some of the colleges, its 3000 "internal" undergraduates, and its still larger army of unmatriculated students attending university courses, constituting already the nucleus—especially in medicine, science, technology, and economics—of a centre of academic teaching and research not unworthy of the great city that it serves. What is important in the present survey is the closeness

with which the university has already connected itself with all the other branches of educational work. By its inspection of schools and its new "school-leaving" matriculation examination, it stretches down its roots to the secondary schools, from which it is attracting a steadily increasing number of undergraduates. By the bold opening of many of the ordinary courses to the evening student, it has—though at the sacrifice of the professors' dining engagements!—put itself in touch with a new crowd of able and eager students. By its inclusion of the ablest professors and the highest classes of the several polytechnics, it has begun that decentralisation of undergraduate teaching and that local provision of university instruction which so huge a province as London requires. Alike in respect of the training of teachers and the adequate development of the scholarship system, it has made itself indispensable to the elementary schools. It is a tribute to the far-sighted statesmanship of those who drafted the scheme of reorganisation, and also to the prudent catholicity which has marked its present administration, that the University of London, only five years ago an isolated examining board without professors, students, colleges, or local connections of any kind, forms to-day an integral part of the London educational

system. This connection is evidently destined to continue, and to become even more intimate. The urgent need for an extensive enlargement of the Day Training College, and the improvement in the education of pupil-teachers, will bring to the doors of the existing university colleges hundreds of additional young men and women, for whose academic training between eighteen and twenty-one the local education authority will have to provide. The development of the scholarship system will add another contingent, whom it will not be profitable to have to send to Germany, to seek the instruction in chemical technology or specialised engineering which is lacking in London. The need for considerable developments in the provision of more specialised science and technology, to say nothing of modern languages and economics, is, indeed, too patent to require argument. The grant of £10,000 a year made by the London County Council towards such part of the university work as falls within the statutory definition of technical education, and the recent conditional undertaking of the Council to contribute £20,000 a year to the projected new College of Technology, warrant us in assuming that, with the wider powers conferred by the Act of 1903, the municipal authorities of London, like those of Liverpool

and Manchester, Birmingham and Glasgow, will not be unappreciative either of the requirements of their local university or of its place in the systematic organisation of London's education.

The foregoing brief survey of the London educational system of to-day may serve to remind us how great and how complex is the duty which the Act of 1903 imposes upon the London County Council. So great a task, it need scarcely be said, requires not only width of views and high educational statesmanship in the administrators, but also the development of the necessary administrative structure. The Council is enabled by the Act to call to its aid, as co-opted members of its Education Committee, such persons of experience in the different kinds of educational administration, including women, as it may, in its discretion, select. It can, in this way, continue the very valuable assistance which it has hitherto been receiving from the co-opted members on its own Technical Education Board. It can secure the no less valuable services of men and women practically acquainted with the various kinds of schools and colleges through which it has necessarily to work. It will be able to enlist the aid of the University and the great

secondary and technical foundations, without which London education would be poor indeed. It can, by the same means, provide, in the least objectionable and most helpful way, for that expression of the criticisms and desires of its 20,000 teachers, women as well as men, including both those in secondary and those in elementary schools, which otherwise is apt to seek, in electoral pressure, an unconstitutional and even harmful channel. The London County Council, in the practically complete discretion which the Act of 1903 gives it, and the unlimited field of selection which London affords, has the opportunity of constituting an ideal Education Committee.

But however powerful and well-informed may be the London County Council and its Education Committee, no one having any practical knowledge of London education will suggest that all the thousand and one details of administration can be properly dealt with by any central body. No such committee could even visit all the 2000 separate schools and institutions, or discharge the numerous duties now undertaken by the couple of hundred existing governing bodies or managing committees of as many different foundations or separate institutions, the 500 little groups of managers of the voluntary

schools, and the 1700 local managers of the present Board Schools. We may leave out of account the first of these three classes, the bodies of governors or managing committees of educational institutions other than elementary, which will not need to be disturbed. Nor need we discuss here the very definite provisions made by the Act for the future local management of the non-provided schools, as to which the County Council has no discretion. There remains the problem, which the Council will itself have to solve, of how to provide for the efficient local management of the 500 Board Schools and the 400 evening continuation class centres, together with the local administration of the machinery for enforcing school attendance.

There has, so far as I know, been scarcely any public discussion of this important problem of educational organisation. I have therefore tried to find out the real conditions of the problem, and to devise, after many inquiries, a plan by which the work might be done, with the minimum of risk and the maximum of efficiency. The scheme of organisation here suggested for consideration would, I believe, enable the County Council to secure the greatest amount of local co-operation in school management, compatible with uniformity of administrative efficiency

throughout the whole country, central decision of policy, and effective financial control.

The first point to settle is the unit of area. It seems, on the whole, desirable, in view of the terms of the Act, and the importance of enlisting the cordial co-operation of the Metropolitan Borough Councils, to take, as the unit of area for school management, the Metropolitan Borough. This would give the County Council to deal with only twenty-nine groups of managers, instead of, as at present, five or six times that number. These groups of managers of Board Schools might be called Local Education Committees. They would have to "manage" a varying number of schools, from three or four in the City of London and the borough of Stoke-Newington, up to as many as thirty-six in the boroughs of Camberwell and Islington.

These Local Education Committees must, on the one hand, be sufficiently numerous to discharge the multifarious personal duties of managers and, on the other, sufficiently limited to make them efficient working bodies. For the former purpose Camberwell and Islington might well need, to deal properly with all their thirty-six Board Schools, as many as 200 members. For the latter purpose the maximum ought to be, say, forty-two.

To meet these contradictory conditions, there must be a twofold organisation. The Local Education Committee should be so constituted as primarily to be an efficient working body, including women as well as men, and consisting of not less than twenty-one and not more than forty-two members, even in the largest borough. But it should be required, except in the smallest cases, to divide itself into as many sub-committees as are needed to enable each to have charge of only a few of the Board Schools, conveniently grouped together. Each group of schools should, I venture to think, comprise not fewer than three nor more than six, according to local circumstances. Thus, in the largest boroughs, the forty-two members would be divided into about six or nine sub-committees, on each of which about half a dozen members would serve. But experience indicates that a body no larger than such a sub-committee would not be able to do enough of the personal visiting of the schools, and making individual acquaintance with the teachers and the children, which constitute so important a part of the duties of school management. It would, moreover, be a calamity for the Board Schools to lose the devoted services now being rendered by the majority of the 1700 existing managers—often

travelling from other parts of London to the poorer districts where they serve—not more than a quarter of whom could probably find places on the Local Education Committees. Both these considerations point to reinforcing each sub-committee with additional members, who would be interested only in that particular group of schools, who would share in all the managerial duties in that group of schools, and who would be members of that sub-committee, but who would not necessarily be members of the Local Education Committee, to which all the sub-committees would report. All alike might be appointed "managers," whilst those who were placed on the Local Education Committee itself might be styled "representative managers," a term to which they are already accustomed. By some such plan as this the numerous Board Schools of Stepney and Camberwell, Islington and Wandsworth, could continue to have the couple of hundred managers, whose personal service is so valuable, and yet obtain a Local Education Committee of practicable size, with which alone the Education Committee of the County Council would correspond.

It would be one advantage of such a plan that the Local Education Committee could be made both a more dignified, a more responsible,

and a more systematically organised body than the existing tiny groups of managers. Each Local Education Committee would have an efficient clerk assigned specially for its work by the Central Authority. It should be required to have regular meetings, and a printed agenda, in which the reports of its sub-committees would appear in proper form and in due detail. In respect of every important proposal, the Local Education Committee should have at its disposal the opinion of the County Council inspector having the supervision of the schools of that district; and his comment might well be appended, in brief, at the foot of the sub-committee's report. By such reports from the clerk and the inspector, the Committee would be enabled to confine its recommendations to the execution of the policy laid down by the Central Authority, which it could not, of course, be permitted to thwart or pervert.

The recommendations of each Local Education Committee would have to be submitted to the Central Authority, which alone should authorise actual expenditure. But there would be a great difference between the somewhat haphazard recommendations at present made by the tiny groups of managers, at scantily attended meetings, often dominated by a single person-

ality, and those coming up from a well-organised Local Education Committee, combining the experience of various groups of schools, advised in advance by the clerk and the inspector, duly checked in the central office, and definitely confined to the execution in detail of a declared policy of the central body. In so far as the recommendation of the Local Education Committees had received the concurrence of the inspector, were found to be within the scope of the work of the local body, and within the estimates for the year, and could be certified as in the line of the policy already decided on, they might safely be printed in the smallest type at the end of the School Management Committee's agenda, to be approved *en bloc*, unless particular objection was made. In so far as they raised new questions, diverged from the declared policy, exceeded the scope of local authority, were not concurred in by the inspector, or otherwise called for attention, they would be put in another part of the agenda paper as mere suggestions, to receive special consideration. By some such plan as this, it would be possible for the County Council practically to delegate to the proposed Local Education Committees whatever details of routine school management it might think fit, whilst ensuring that every local decision should be

taken with proper deliberation, after the advice of the Council's own trained clerk and inspector, confined to the execution of the policy already determined upon, and subject always to complete central control.

In this brief outline of a local organisation, I have deliberately limited myself to machinery. What duties should thus be delegated, and what reserved for central consideration, is a question of policy rather than organisation. In my opinion, it will only be by a somewhat extensive delegation of administrative details in the running of the existing Board Schools, that the County Council, and its Education Committee, will be able to give time and thought to the vastly more important questions of principle, which urgently need consideration, even in elementary education, still less to deal with secondary and university education, and to construct for London anything like a properly co-ordinated and comprehensive educational system. If I am right in this view, the construction of local administrative bodies, to which work could be delegated, becomes a matter of first-class educational importance. It is, therefore, convenient that, for this purpose, no amendment of the law is required. The Act of 1903 enables the provided schools in each borough

to be grouped, and the number of managers to be determined as may be thought desirable, though both these decisions will have to be made by the Borough Council. It leaves the County Council free to decide what powers, if any, beyond mere visiting of the schools, it will confer on these managers. The choice of the managers has to be made partly by the Borough Council and partly by the County Council, under conditions which make a joint agreement as to the selection absolutely indispensable. It is entirely at the option of the County Council whether these managers shall have anything to do with the evening continuation schools or the execution of the attendance by-laws. Moreover, even the day schools cannot be grouped nor the number of managers determined, except after consultation with the County Council. Here, it is clear, are all the materials for a joint agreement if the matter is carefully handled on both sides. It will, I think, be plain to every Borough Council that unless it proceeds in cordial co-operation with the County Council, its managers will find themselves devoid of power. Unless the whole of London is dealt with on some uniform plan, no delegation, even of the minutest administrative details, will be possible. Fortunately there is provision against

a deadlock, in the power of appeal to the Board of Education, which would be able, in case of need, at the instance of the County Council, to prescribe a uniform plan for all the boroughs, and to issue the directions necessary to give effect to it.

The plan of local administration suggested in the foregoing pages is therefore, as it happens, within the four corners of the Act, and could be brought at once into effect if it were decided upon. Only by some such plan, I venture to think, can we enable the London Board Schools to continue to enjoy the valuable services of the existing managers, and at the same time provide the Central Authority with competent and responsible local committees, absolutely subordinate as regards policy and at all times strictly under control. By making gradually more and more use of these Local Education Committees, the central body might free itself from the intolerable mountain of detail under which its Education Committee would otherwise be buried, and so be free to think out all the complex and varied educational problems, upon the solution of which the efficiency of the whole system really depends.

CHAPTER II

THE ORGANISATION OF THE UNIVERSITY[1]

Only after a whole generation of conflict and controversy did London get its teaching university. The heartbreaking pioneer work is done, statutes and regulations are completed, and the complicated machine is vigorously at work. Yet the plain man remains almost unaware that the teaching university exists. Its separate fragments, constructed on inconsistent bases, meet but do not cohere. Before the new senate can become an effective body, co-ordinating and directing all the university teaching in London, and generating, out of the scattered elements, a real intellectual force, two things are necessary—a definite university policy and the driving force of money.

What kind of university is possible in London? Any practical policy for a London

[1] In this chapter, I have incorporated much of two articles, one contributed to the *Nineteenth Century and After*, and the other to the *Cornhill Magazine*.

University has, it is clear, to have regard to the limitations, the needs and the opportunities of London life. It may at the outset be admitted that, for any university of the Oxford or Cambridge type the metropolis is perhaps more unfit than any other spot that could be chosen. By no possible expenditure could we create at South Kensington, in the Strand or at Gower Street, the tradition, the atmosphere, the charm, or the grace of collegiate life on the Isis or the Cam. Nor is it possible to secure, amid the heterogeneous crowds of London and all its distractions, either the class selection or the careful supervision required by the parents of boys fresh from Eton or Harrow, with two or three hundred a year to spend in pocket-money. For good or for evil we must accept the fact that nothing in the nature of collegiate life is possible in London. Even the "hostel" becomes little more than a co-operative lodging-house. The London University student must inevitably be free to wander, indistinguishable in dress, to all parts of the great city; to pry into all phases of its life, and to rub shoulders with fellow-students of every age, of every rank, and of every kind of home experience and personal tastes. Now that Oxford and Cambridge are open to students of all creeds and all races, no

parent, living himself away from London, and wishing to place a boy of eighteen amid safe and advantageous social surroundings, would willingly send him to live as an undergraduate in London lodgings. With the exception of country students coming to study medicine or engineering, the undergraduate class of London University will, we may infer, be confined to London residents, and, among these, to students from the 99 per cent of London homes which are maintained on incomes under £1500 a year.

This limitation must vitally affect the whole policy of London University. It governs the curriculum, the character of the teaching, and its geographical distribution. But it imposes practically no limit on its size; for the London over which the university senate is given jurisdiction comprises all the seven millions of inhabitants of the 30 miles radius, covering, therefore, no less than 2830 square miles. It is not a city, but a province, even a whole nation in itself. Holland and Belgium, neither so rich nor called to such great responsibilities as the people of London, have each half a dozen universities for not dissimilar numbers, whilst Scotland maintains, for only two-thirds as many people, no fewer than four ancient and successful seats of learning. Among seven millions of

people there are reared up thousands of doctors and lawyers, engineers and chemists, architects and surveyors, teachers and civil servants, clerks and business men, journalists and authors, who cannot go to Oxford or Cambridge, and whose education at present is often prematurely broken off, or lacks direction and stimulus—fails, above all, in subtle cultivation of the imagination and generosity of aim—because there is not in London, as there is in Paris and Berlin, a well-organised university in close contact with the life of the city. In this as in other particulars the very limitation of a London University becomes its opportunity. Being, *as regards its undergraduate class*, essentially a university for the sons and daughters of households of limited means and strenuous lives, it will not, like Oxford and Cambridge, set itself to skim from the surface of society the topmost layer of rich men's sons and scholarship winners. Wisely organised and adequately endowed, it must dive deep down through every stratum of its seven millions of constituents, selecting by the tests of personal ambition and endurance, of talent and "grit," for all the brain-working professions and for scientific research, every capable recruit that London rears. Hence it must stand ready to enrol in its undergraduate ranks not hundreds a

year but thousands. If we remember that Paris and Berlin, drawing from much smaller local populations, and exposed each to the competition of a score of other universities in their own countries, have each actually twelve thousand university students, we can see that any equally effective London University might easily number twenty thousand.

An undergraduate class of this nature involves a second limitation. Practically all the undergraduate students of London University will intend to earn their livelihood in the competitive work of the world. Whatever may be the advantage of the "Greats" school of Oxford or the Cambridge triposes, as a preparation in general culture for those who can postpone their professional training to later years, it must be accepted as axiomatic that no such leisurely curriculum meets the practical requirements of the young engineer or business man, the teacher or the solicitor, or even the future doctor and civil servant. Between the ages of eighteen and twenty-two the London student will necessarily have to get well forward with his specialised knowledge and professional training. This involves the revival of the older conception of a university course deliberately framed so as to prepare the undergraduate from

the outset for the practical pursuit of his profession, but in such a way as to turn him out equipped, not only as a trained professional, but also as a cultivated citizen. The London University, like the universities of mediæval Europe and modern America, will therefore necessarily take on the character of a technical school for all the brain-working professions of its time—not alone law, medicine, and theology, but also every department of science and learning, from engineering and chemistry to pedagogy, banking and commerce and public administration. Some may regret this limitation, but the practical man will see in it a great opportunity. Exactly as the "middle class" origin of the typical London undergraduate by opening up a clientèle of enormous extent, makes possible a large university, so his professional needs compel an intensive culture of each subject unknown at the older seats of learning. Young men eager to master a department of learning or science, in order to apply it to gain their livelihood, will require in their teachers a much higher standard of knowledge and suggestiveness than those following courses with a view to a cultivated understanding of the whole realm of knowledge. The very practical character of London University will inevitably force its

teachers further and further away from the mere elements of their subjects, and compel them to be ever pushing out into the yet unknown—that is to say, into the region of original investigation and research.

And here we see opening out before us London's most pressing need and unique opportunity. The obvious and imperative duty of a rightly organised and adequately endowed London University is to become the foremost post-graduate centre of the intellectual world. For alongside the university democracy of the undergraduate class, brought about by the multiplication of brain-working occupations and widespread education, we see everywhere emerging, at the beginning of the twentieth century, a new aristocracy of advanced students, intent on pursuing their chosen subjects above and beyond the first, or "bread and butter," degree. Every day it becomes more clear that, as an equipment for the highest grades of brain-workers, the three or four years' general course of the ordinary undergraduate is far from sufficient. In the United States we find a practically unanimous opinion that it is to the post-graduate courses started five-and-twenty years ago at the Johns Hopkins, and now general at all the great universities, that the

advances in American technique and American scholarship are to be ascribed: an opinion explained by Lord Kelvin's recent statement that it takes now at least six years to make a competent scientist. The crowning years of this extended course, when the student is emancipated from schoolboy discipline and academic drill, are best spent under the added inspiration of a new tradition, novel methods and experiences and contact with the intellectual and moral distinction of a fresh environment. That mere change of university is, for the picked student, a valuable stimulus is an axiom which, during the last decades, has been winning acceptance throughout the educational world. The research scholarships given annually by the Commissioners of the 1851 Exhibition to the most brilliant scientific graduate in each university of the British Empire, are deliberately made tenable, not at his own, but at some other university. Every German and Austrian university encourages its students to spend part of their time at some other seat of learning, whilst the French and Belgian Governments are always paying the expenses at foreign universities of carefully selected graduates. At this moment private munificence and travelling scholarships are keeping several hundreds of

American graduates at one or other of the universities of Europe. And, as if to set upon this movement the seal of modernity, our new and "up to date" ally in the Far East now sends, at government expense, hundreds of picked graduates from the Japanese colleges to spend some years in post-graduate study in the capitals of Europe. Now, to all this large and growing class of well-equipped and highly selected students London offers extraordinary attractions. Here they can live according to their own standards of expenditure, obtain the food, keep the hours, and follow the religious observances befitting their temperament, class, or racial habits. The very distractions and sights, the contact with celebrities, even the dark places and problems of the world's greatest city, are, to the adult student, an education in themselves. We need not, therefore, be surprised that, even with the present meagre facilities for post-graduate study, every year sees an increasing number of graduates from other universities, following in the hospital wards the celebrated operator or physician, seeking admission to Sir William Ramsay's experimental laboratory, or attending lectures at the Royal College of Science or the London School of Economics. With a highly specialised staff of

university professors in each faculty, the London University would attract, not one or two here and there, but a continuous stream of the ablest and most enterprising of young graduates from the colonies and the United States, from every university of Europe and the Far East. In the provision of facilities for this highest grade of students the senate of the new London University has an opportunity of combining a sane and patriotic Imperialism with the largest-minded Internationalism. Moreover, in the organisation of these post-graduate studies, the senate will be but responding to a characteristic need of London's own population. In the homes and offices of the metropolitan area there exists the raw material for a most fertile post-graduate department of native birth. Among the thousands of young men and women whom we may expect to see graduating year by year, there will be, in each faculty, a chosen few who, either from intellectual interest or professional ambition, will desire to continue their studies, and work for the higher degrees. Here London makes possible a post-graduate life unattainable in the more leisurely cloistered homes of university culture. Exactly because the London University is set down in the very midst of warehouses and offices, monotonous squares and

mean streets, the poor and talented graduate, living inexpensively at his own home, or already gaining his livelihood, can, as a day or evening student, pursue his little bit of original research, and work at the thesis which will gain him the coveted doctor's degree. The very combination of two such distinct classes of post-graduate students—the one bringing the training and experience of alien universities, the other contributing the intimate knowledge of the actual processes of bank or factory, government department or merchant's office—constitutes in itself an extraordinarily stimulating intellectual atmosphere for the advanced student.

But a university is, or ought to be, much more than a mere place for teaching. Its most important function in the State is the advancement of every branch of learning. For this highest function of a university the character, conditions and numbers of the undergraduate students are relatively unimportant. Here what is vital is the professoriate and its environment. There are some who say that London, though it may become an important teaching centre, can never provide the environment for a university in this highest sense. What such critics have in mind is the absence from London of the fascinating atmosphere of general learn-

ing produced by the intellectual intercourse of men of different subjects, in a place where there is no competing distraction. We shall do wisely to recognise the truth underlying this instinctive consciousness of the limitations of London life. The all-round cultivation of the individual mind, the continuous appreciation of the finest literature that has been written, the balanced judgment due to a scholarly criticism of the past achievements of mankind, the refinement of humour and the sense of perspective of a Mark Pattison or a Jowett—all this is not, and can never be, promoted by London conditions. The vast distances between home and home, the differences in family circumstances and social position, the very strenuousness and bustle of London life, incline the brain-worker to limit his social intercourse to those with whom he has actually to co-operate. The mere size of the professoriate of a London University increases this tendency. If the advancement of learning depends on the subtle intellectual stimulus gained by the professor of history's casual argument with the professor of biology, by the interplay of the theologian's mind with that of the philologist, by the interchange of the lore of the scholar of Arabic with the facts of the student of chemistry, the metropolis of

the Empire is not likely to make any great contribution.

But the advancement of learning does not depend entirely, or even mainly, on a knowledge, however scholarly, of the past and present achievements of mankind. This, indeed, is culture, not science. What Bacon meant by the advancement of learning was the discovery of facts and laws hitherto unknown, new conquests of man over his environment. For this slow, hard and perhaps unlovely task of clearing new ground, quite different are the requirements from those which make for the highest culture. First and foremost, the scientific investigator in any of these fields, as distinguished from the scholar, must be provided, not with books alone, but with a perfect wealth of tools and raw material, costly laboratories and experimental workshops in physics and chemistry, hospitals and asylums for medicine and surgery, schools for pedagogy, documents and social institutions actually at work for economics and political science. Above all, he must live and work under the stimulating influence of intellectual contact with the master minds in his own subject, English and foreign, whether these be fellow-investigators or practical experts applying and developing in their daily work the fruits

of invention and research. For the advancement of learning in this, the Baconian sense, the conditions of London life, far from being adverse, are, in reality, in the highest degree favourable. Even without the staff or equipment of a great university, London has always contributed much more than its quota to scientific discovery. It was by no mere accident that Davy and Faraday, Huxley and Tyndall, Sir Joseph Hooker and Mr. Herbert Spencer, all worked in London. London's unparalleled wealth in "material" for observation and study necessarily makes it the principal centre for every branch of English science. The intellectual environment is no less favourable than the wealth of material. The fact that all the learned societies meet in London is significant. No place provides, in each subject of study, so highly specialised a society, in which the ablest thinkers and investigators in any department of learning can meet, in friendly converse, not only their foreign colleagues visiting the great city, but also those who are, in the practical business of life, both needing and using the newest discoveries. Add to these natural resources of metropolitan life a university of the type required by London's needs—a large, closely knit and highly specialised professoriate

in each faculty directing the researches of assistants and post-graduate students in the different branches of each science—and we shall have created, in the very heart of the British Empire, an almost ideal centre from which future generations of investigators and inventors may explore new realms of fact, discover new laws, and conquer new applications of knowledge to life. In the whole range of the physical and biological sciences, in the newer fields of anthropology, archæology, philology, pedagogy, and experimental psychology, in the wide vistas opening out for applied science and the highest technology, in the constantly changing spheres of industrial and commercial relations, administration and political organisation, we may predict with confidence that a rightly organised and adequately endowed London University will take a foremost part in the advancement of learning.

What, now, should be the policy of the new London University? First and foremost we must accept, as the basic principle of its structure, an organisation by faculties, not by colleges or other institutions. Only on this principle can we develop a university structure adapted to the needs and opportunities of the metropolitan area. London, it is clear, can have but one

university. For the small German town or provincial English centre, the university may suitably be of simple and, so to speak, unicellular type. Oxford and Cambridge, with their close aggregation of separate colleges of identical pattern, present us with what may be called a multicellular development of the same elementary type. By no such simple repetition of parts could we create a university for the huge area and dissimilar conditions of the metropolitan districts. Its unique combination of a widely dispersed undergraduate population and centrally segregated materials for research, its union of the most democratic student life with the most perfectly selected intellectual aristocracy of science, necessarily calls for a more highly organised structure. This is found in the establishment, as the principal organs of the university, of separate faculties, each of them highly differentiated in structure, so as to fit it for dealing, in its particular department of learning, with all the teaching and all the research from one end of London to another, and capable of indefinite expansion, without interfering with any other faculty, to meet the requirements of every part of the area and every development of the subject-matter. So long as the several colleges or other teaching institutions regard

themselves, and are regarded, as the units of university organisation, their instinctive megalomania is a disruptive force, creating internecine jealousy and competition for students, and impelling each particular institution, irrespective of its local conditions or special opportunities, to strive to swell itself into a complete university on a microscopic scale. Make the faculty the unit, and the same megalomania, impelling the professors to work for the utmost possible extension and improvement of the faculty as such, serves only to extend the influence and enhance the reputation of the university as a whole. This is not to say that there is no place in the London University for separately organised institutions and autonomous governing bodies. It is impracticable and undesirable for the university senate or the university faculties to undertake the vast business of managing all the colleges and other teaching institutions within the metropolitan area. Whether these institutions devote themselves to particular departments of research, to special grades of teaching, to distinct subjects of study, or to the local requirements of their districts, the university will with advantage leave to their governing bodies a large autonomy in business management and finance, and concern itself only with

seeing that such portions of their teaching staff and students, their courses of instruction and equipment, as are recognised by the university, are properly organised and co-ordinated with the larger life of the whole. The lines along which this co-ordination must necessarily proceed are marked out by the subjects of teaching or research; that is to say, by faculties. At present there are eight such faculties—namely, arts, science, medicine, law, music, theology, engineering, and economics. But the number of separate faculties will gradually increase, either by simple additions, such as pedagogy and philosophy, or, with the advance of the subjects, by the further differentiation into separate organisations of such large and comprehensive divisions as "science" or "arts."

The internal organisation of all the faculties should comprise the same elements. Each will have to provide undergraduate teaching, to afford facilities for post-graduate work, and to promote, through the researches of its professors and advanced students, the discovery of new truth in its own subject-matter. Let us begin, as regards each faculty, with the broad base of the university organisation, the crowds of matriculated students following courses of study for the ordinary degree. Here the policy must clearly

be that of the Open Door. It is the duty, as it will be to the advantage, of the senate to see that every section of the vast population committed to its charge has easy access to university teaching of the kind best adapted to undergraduate needs. It is at once plain that, in order to accommodate the undergraduates furnished by seven millions of population, spread over 2830 square miles, we must give up all idea of concentration at any one centre. It takes longer to journey from Stratford or Beckenham to South Kensington or Gower Street than it does to go from Edinburgh to Glasgow or from London to Oxford. The cost of a daily railway ticket between Plumstead or Croydon and a central London laboratory exceeds the entire fees charged by a German or Scotch university. Whether we consider expenditure of time or expenditure of money, the only way to make a university education possible for the bulk of London's matriculated students is to bring it close to their own doors, giving the lectures and opening the laboratories at the hours most convenient to the students themselves. Thus, instruction will have to be provided in the evening as well as in the daytime, and it should be carried on, with proper relays of teachers, practically continuously throughout the whole year. There

is no harm, and indeed great advantage, in these university courses being attached to polytechnics or technical institutes whose other departments are of less than university rank. The university will, of course, take care to appoint or recognise none but thoroughly competent teachers; it will see that the courses of instruction are given the genuine university spirit; it will maintain a high standard in laboratory accommodation; and it will naturally admit, as university students, only those who satisfy its matriculation and other requirements. Subject to these conditions there can be nothing but advantage in an indefinite multiplication of opportunities for undergraduate study in the whole of the vast area extending from Maidenhead to Gravesend, from Guildford to Bishop's Stortford. In the popular faculties of science and engineering there will, not improbably, soon be an effective demand—measured by the presence of fifty or a hundred undergraduate students at each place—for complete degree courses at forty or fifty such centres. Even such a multiplication would give, for each centre, a population as great as that of Aberdeen or Plymouth. The teachers at these exclusively undergraduate centres, who will be chosen, it may be hoped, from the ablest post-graduates of London or other universities, must,

of course, be members of the faculties and boards of studies in their respective subjects, and every possible opportunity should be given for them to meet, for the discussion of how best to advance their particular branch of learning, not only their contemporaries, but also their more distinguished colleagues, the chief university professors, whose pupils they will probably have been. Only by the frank acceptance of some such policy of extreme local dispersion of the mere undergraduate teaching, coupled with a highly organised intellectual intercourse between all the university teachers in each subject, can the London University rise to the height of its opportunity as the university for seven millions.

Those who shrink appalled from this vision of ten or twenty thousand undergraduates dispersed among forty or fifty teaching centres at such unacademic places as Tottenham and West Ham, may find comfort in the arrangements for the post-graduate students, whom we may expect to see numbered at least by hundreds. Here the policy must be one of extreme concentration. It should be the policy of the university to attract the post-graduate student to the one or two highest colleges in each faculty without, however, limiting his freedom of choice; to extend to him there the warmest

welcome, with the fewest formalities; and to regard the suggesting and criticising of his work as the principal teaching duty of the ablest and most distinguished of the university professors. The seminars and specialist lectures of the more central colleges of the university should, in fact, be organised with primary reference to the needs of the post-graduate or advanced student, and should cater for undergraduates, if at all, only as a secondary and entirely subordinate consideration. For it will be, in the main, by these specialist courses and highly selected seminars that the university will be judged by other universities; and it will be by the patient work of the post-graduate students, and in their friendly personal intercourse with the professor, that will be trained, not only the future teachers and professors for universities all the world over, but also those to whom we look for the advancement of science and learning.

We come now to the character of the professoriate in each faculty. Here the keynote should be multiplicity of grade and diversity of type. The old conception of distinct colleges, each covering the whole range of the university curriculum, and able therefore to afford and employ only a single professor for each of the numerous subjects dealt with, is, as we have

seen, for many reasons unsuited to London. The newer conception of university organisation, embodied in the creation of faculties each composed of coequal professors of identical type, teaching the same subject at different institutions, is only one step in the right direction. What London University requires in each of its faculties is not a mere conference, but, under the guise of an advisory committee of the senate and its three subordinate councils, a highly organised and differentiated organ of academic administration. By a natural division of labour within each faculty, the different professors will find themselves undertaking research and teaching, not in the whole, but in particular aspects or departments only of their science. But there will have to be a further differentiation. We must abandon the simple ideal of equality, identity, or uniformity among professors, whether of tenure or salary, attainments or duties, time-table or holidays. The principal professors, on whom mainly we must depend for research, should, of course, have life tenures, high salaries, and abundant leisure, whilst the bulk of the university teachers required by so extensive an undergraduate population as that of London will necessarily be engaged for short terms, earn only modest

salaries, and work at times and seasons convenient to those whom they serve. All the members of the faculty will, we may hope, be inspired by one and the same enthusiasm for the advancement of their science, but this oneness of spirit will go with diversity of gifts. If we are really in earnest in wishing to provide the best and most varied instruction, in the best way, to London's crowds of undergraduates, we must impose no tests on candidates for these teacherships, other than knowledge and capacity to impart it. Among these junior teachers may be found some who will distinguish themselves by original research, and rise to the highest academic distinction. But we must eschew anything like promotion by seniority. For the highest posts, it is, indeed, vital to choose comparatively young men: what we have to do is deliberately to survey the universities of the world and attract to London, by good salaries and the provision of the greatest opportunities for research, the most fertile brains of Europe and America. And we cannot afford to waste the most distinguished scientific talent on the drudgery of lecturing day by day to the mere undergraduate. "It is not my business to make chemists, but to make chemistry," rightly urged one highly placed professor.

This is not to say that the highest professors should do no lecturing, or even that they should never lecture to undergraduates. On the contrary, a certain amount of such lecturing is good for the professors themselves, and for their work. Moreover, it is of importance that they should stand out as known and inspiring examples to the whole undergraduate world. The great men in each faculty will from time to time inspire and enhearten even the most remote and humble centres by their presence in the laboratories and occasional lectures. But no university policy can be successful unless it keeps in mind constantly that the duty of the principal professors is not the mere teaching of what is known, but the discovery of new truth. What the highest professor must be relieved from is the daily grind of elementary teaching. Thus, instead of the teacher's life being subordinated to the needs of the student, as in undergraduate centres it must and should be, every other task imposed upon the professor should, in the post-graduate centres, give way to the professor's own researches.

For this supreme end of original investigation and research should be organised the costly and specialised laboratories and collections of the central colleges of the university. Hence, it

is indispensable that these colleges should be entirely independent of ordinary undergraduate classes. For undergraduate classes their buildings and equipment ought, indeed, to be unsuited. Instead of the merely elementary science benches thronged by hundreds of freshmen, the central colleges will need the most perfectly provided experimental laboratories, equipped with every new instrument of investigation, and open only to a chosen few. Here will be the meeting-place for all the teachers in the faculty; here will be received the foreign specialist or the practical expert; here will meet the learned society or the professional association; here, in fact, will be the intellectual headquarters of the particular department of learning.

The faculties of London University will therefore inevitably become large and varied bodies exercising, in their advice to the senate, important functions of academic administration. It is an important detail in their organisation that they should each be provided, not only with a convenient headquarters and a specialist library, but also with an adequately paid business manager or secretary. This officer should neither teach nor investigate, but attend to the multifarious business of the faculty and

of the boards of studies connected with it, for which the professors themselves have neither time nor training. In constant consultation with the principal and the registrars, he would see that his faculty, and the boards of studies connected with it, attended properly to all the requirements of the senate and its councils. But much more should be required from him. It should be his business to find out from the professors what further materials or plant they required, and see to its being supplied; to receive and enrol the post-graduate students and advise them as to the subjects dealt with by the various professors in his faculty; to keep his eye on every district of the metropolitan area, with a view to seeing that its particular needs in the way of undergraduate teaching were, so far as his faculty was concerned, adequately provided for. He would in every way act, for all the concerns of his faculty, as the confidential lieutenant of the principal of the university, in consultation with whom he would be always on the lookout to get, from local authorities, from bodies of trustees, or from individual donors, additional resources for the work of the faculty, in its twofold aspect of teaching and research.

The pivot upon which will turn this organisa-

tion by faculties of London University is the reality of the power exercised by the senate. This depends, to put it bluntly, upon how much money the senate itself has the spending of, irrespective of the separate "schools" or other institutions. The senate itself, not this or that particular institution, must necessarily appoint and pay, at any rate, all the principal professors in each faculty, even if they are assigned for research or teaching to the laboratories and lecture-rooms of particular institutions. The senate itself, not one or other of the mutually competing colleges, must be in a position to find the money for the appointment of the additional teachers required in each faculty, in order to be free to place them where they will be most serviceable. The senate, moreover, must be in a position to develop the newer or the weaker, the less popular or the less obviously utilitarian faculties, or departments of faculties, and even to create new faculties, in the direction and to the extent that the interests and reputation of the university may require. Only by wielding the power of the purse can the senate make its supreme authority effective, and serve as the co-ordinating brain that gives unity to the whole organisation. For, potent

as must necessarily be the influence of the faculties in advising upon the curriculum, the character of the teaching and the opportunities for research, it is of the utmost importance to the welfare of the university that the ultimate decision should not be in their hands or in the hands of their co-ordinating committee, the Academic Council, any more than in those of the separate colleges. We cannot afford to give any faculty complete autonomy, even within its own field of science or learning. The existing professors and teachers of whom the faculty will consist must not have either the temptation or the opportunity to fill vacancies exclusively from among their own pupils, their own assistants, or adherents to their own views; or to exclude or discourage particular classes of students, or particular methods of teaching or investigation, which may from time to time offend their professional prejudices or seem to encroach on their vested interests. Even in academic matters it is vital that the supreme power should rest with a strong representative body essentially lay in character, accessible to new suggestions and independent criticism from the outside world, able, unbiassed by the separate interests of particular faculties, to decide how best to meet

the constantly changing conditions of a progressive community.

So comprehensive a scheme and so far-reaching a policy may seem hopelessly out of the reach of the newly constituted university, of which Lord Rosebery has become the first elected chancellor. But neither scheme nor policy involves anything revolutionary. They amount, in fact, to no more than an explicit writing out of what is already contained in the actual legal constitution of the university. Parliament and the university commissioners definitely rejected the plan of making the colleges the units of university structure, and created eight faculties, co-ordinated by a joint committee of themselves, called the Academic Council, as the principal organs of the teaching university. Over these faculties there is placed a strong senate, in which not only the professoriate and the graduates, but also the Inns of Court, the City Companies, the City Corporation, and the London County Council, are represented. In this senate sit eminent doctors and lawyers, engineers and business men, as well as some of the leading professors. For its work it has secured the services of a most distinguished man of science and organiser, in the capacity of principal. Nor has the senate to build up from

the ground either the teaching or the research which it is charged to promote. Between thirty and forty centres of undergraduate teaching, dispersed all over London, are already at work, attended by some thousands of students. It has a university professoriate already hundreds strong, including in each faculty men of eminent distinction in their subjects. The existing laboratories and libraries, lecture-theatres and class-rooms, though far from adequate, represent a capital value of not less than two millions sterling. Thus, all the framework and many of the materials of a great university are ready to hand. What we have to do is to put the new senate in a position to adjust all these materials into their proper places; transform them so as to fit them for their most effective uses; fill up the obvious gaps, and weld the whole into a smoothly working machine.

To lift the new London University out of its present *impasse*, we have, first and foremost, to provide for a great development of post-graduate work, specialist teaching and original research; along with this to free the principal professors and the older and more central colleges from their present dependence on undergraduate classes, upon which they are largely wasted; and finally to multiply the centres for under-

graduate teaching in the localities requiring them.

Let us begin with the Faculty of Arts. This presents, at first sight, a serious problem. This side of University and King's Colleges has long since dwindled, in some departments, almost to a vanishing point. The old conception of the Arts degree, as that to be taken by the cultivated man as such, before proceeding to specialise in a profession, still dominates the Arts side of London University, in spite of the fact that law and medicine, engineering and economics, science and theology, all repudiate it. It may confidently be predicted that no living and flourishing Arts Faculty can ever be built up in London on these lines. Here the characteristic need and special opportunity of London is of a great school of languages, the establishment of which, by the senate, would serve to organise the whole faculty. The varied activities of London bring it into contact, somewhere or another, with practically every known tongue. No city in the world sends so large a contingent of its citizens to other lands, none has so great an opportunity for the advancement of learning in philology. Yet others—notably, Paris and Berlin, Vienna, and even Leyden—put London altogether to shame in the extent of their provision for teach-

ing and studying foreign tongues. There seem to be at least fifty distinct languages, from Annamese to Zulu, from Basque to Malay, from Russian to Persian, now being scientifically studied and practically taught in other European universities, sometimes only for comparative philology, but often also for the benefit of officials and traders. In London, with a far larger population from which to draw students, and organise post-graduate work, the department of philology is of the scantiest, and half of the fifty tongues are not represented at all. In the London University school of languages Greek and Latin would form the base, and classical archæology an important feature, whilst not only the philology and literature, but also the vernacular, would be thoroughly dealt with, of every tongue with which the missionary, the trader, or the official can come in contact. To maintain even one professor and one assistant for any particular tongue demands at least £800 a year; to provide for the whole fifty languages requires a new income of thirty or forty thousand pounds.

It is, of course, not philology alone with which the Arts faculty has to deal. This faculty, in a sense the mother of all the rest, is clearly destined to include not merely the scientific

study of language, but also with the essentially artistic appreciation of literature. Within its scope come all the great literatures of the world, those of Greece and Rome equally with those of modern Europe. Even the most inveterate defenders of ancient usage will shortly be driven to reform the present illogical curriculum for the B.A. degree, and the reform can hardly proceed on other lines than those of making it as distinctively a course in the world literatures as that for the B.Sc. degree is in physical science, that for the LL.B. degree is in law, and that for the M.B. degree is in medicine. And for a centre of literary studies London offers advantages almost as great as it does for those of language itself.

I have sometimes thought that the dwindling Arts faculty would be saved, even without its reform, by the inrush of the teachers. London engages about fifteen hundred new teachers a year for its schools, and it is already plain that these will, in the near future, all receive a good secondary education up to at least sixteen, and be provided with three years' training between eighteen and twenty-two. With the growing demand for better qualifications, practically all of them will seek to obtain a London degree, and, in a very few years, the greater part of them will be

qualified to pursue with advantage a University course. This will, in itself, provide London University with a standing contingent of some four thousand undergraduates, two-thirds, at least, being women. Of these, as things now are, an ever larger majority will turn away from the Arts degree, though a curriculum genuinely dealing with the languages and literatures of the world—in short, with the humanities—is just what would be best for their mental culture. They could, even now, be attracted by a reasonably modernised curriculum in Arts. But the obstinate insistence on Greek and Latin as the special instruments of culture, the strange subordination of other languages and what seems to me an altogether inadequate appreciation of the advantages of the study of literature as such, drive, every year, a larger proportion of young men and women away from the whole domain of "letters" to seek refuge in the less cultivating fields of physical science. More and more of them it can already be seen, will choose the new economic degree with its largely historical curriculum, and its very cultivating outlook over French, German, and American conditions. What will presently have to be done if the defenders of a mediæval Arts faculty prove obdurate, will be to establish for these four thousand undergraduates a separate

faculty of pedagogy, with a carefully thought out curriculum of its own—with its alternatives in languages, mathematics, and the physical sciences, and its essentials in history and pedagogical studies—as closely adapted to the requirements of the undergraduate who is going to be a teacher as that of the faculty of medicine is for the undergraduate who is going to be a doctor.

In the subjects of Science and Engineering, clearly destined to be London's strongest side, the systematic organisation of the faculties depends on an extensive provision for post-graduate work and original research on two distinct but closely connected lines. On the one hand, we need to free our leading professors of chemistry and physics, mathematics and mechanics, from their present daily grind of undergraduate teaching; to transform their laboratories from crowded theatres of comparatively elementary teaching into silent homes of experimental research; and to establish thus at least one great centre of original investigation in pure science. On the other hand, a no less obvious deficiency, pointed out in two articles in the *Times*,[1] is the absence of anything in the nature of an institute of scientific technology

[1] June the 4th and 8th, 1901.

adapted to post-graduate work and the experimental application of science to industrial processes.

The same national neglect which lost us the great industry of coal-tar colours—positively a British discovery that we failed to utilise and abandoned to Germany—now bids fair to lose us one branch of applied chemistry after another. At the present moment perhaps the most promising outlook in the scientific field is presented by electro-chemistry, including both electrolysis and the multifarious operations of the electric furnace. This new science has already transformed the commercial production of copper and aluminium, and given us such new products as carbide of calcium (for the economical production of acetylene) and carborundum. It bids fair, moreover, to revolutionise the whole alkali industry. Yet beyond certain small experiments, due to the personal initiative of two or three professors, London offers no means and no opportunities for instruction and research in the subject. If electro-chemistry is destined to transform the world's industry, it is to Germany, and not to England, that the advantage of the first start seems at present likely to accrue. There is no more pressing need in London's University equipment than a special school of electro-chemistry, fully equipped with its necessarily expensive apparatus, and provided with an endowed and not overworked staff of professors, able to inspire and direct the studies and researches of a selected band of graduate students. The same deficiency is found in other branches of technology. Mining and metallurgy are provided for on what must be called a small scale at the Royal College of Science, and

mineralogy also in two or three small classes elsewhere. But nothing that can be called adequate exists for the technical education, at convenient centres and hours, at low fees, of the swarm of mining and metallurgical engineers that London ought to be sending out to every part of the Empire. It deserves the attention of those who are interested in the great mining enterprises of South and West Africa, America, and Australasia whether the time has not come for the establishment of a distinct school of metallurgy and mining, with special reference, not to coal and iron and the conditions of Great Britain, but to the products and needs of other climes. In applied chemistry, too, beyond the praiseworthy attempt at the Herold's Institute (Bermondsey) to deal with leather-dyeing and tanning, practically nothing in the nature of a school of chemical technology exists in the metropolis. London transcends every other city in the magnitude and variety of the local industries depending on one chemical process or another. Besides its large interest in every branch of the clothing trade, in all the materials for construction, and in such specialities as the uses of indiarubber, London is the greatest centre for all the applications of photography and the various lithographic processes, still most incompletely taught and studied. It is, moreover, the largest centre of gas manufacture, and hence the most extensive producer of coal-tar. At present the valuable by-products of London's gasworks are, for the most part, only so far dealt with on the spot as to reduce the cost of their freight to other parts. Practically all the skilled and remunerative treatment of coal-tar products is left to Germany, to which country we export what is virtually the raw material of a most valuable trade, from sheer

lack of scientific knowledge of how to make the most of it. Apparently we are contented with this state of things, seeing that London has to this day no centre of instruction in gas manufacture and the treatment of its by-products; nor any provision for systematic research into their possible developments. Even the immemorial London industry of tanning is falling behind. Hides are positively beginning to be exported from England to New York to be tanned in the United States by new processes and sent back as leather to Leicester and Northampton. It is probable that few, if any, investments would, in the largest sense, pay better than the establishment—possibly in East or South London—of a great school of chemical technology. And, if we turn from physics and chemistry to biology, we must notice that, whilst the Institute of Preventive Medicine studies bacteriology from the pathological standpoint, London has as yet no provision for instruction and research in its industrial side. One of the largest and most profitable of London industries depends on the bacteriological process of fermentation. The whole future of London's food supply—to say nothing of its sewage disposal—is involved in the same question; and refrigeration, to name only one out of many applications, is already the nucleus of a great industry. The most economical means of lowering temperature on a large scale, under commercial conditions, has become literally a matter of life or death in certain industries. This knowledge can hardly be "picked up" at the works or in the office. Yet there is no institution teaching it. We need to expand our few and scanty classes in zoology and physiology into an organised school of instruction and research into all the biological processes that are

or can be applied to industry. We pass to another range of science in mathematics and astronomy; but it is one in which London has a special interest. It seems almost incredible that in the greatest port of the world, providing its own large quota to our mercantile marine, absolutely no public provision exists for instruction in the art of navigation, or in the applications of mathematics and astronomy on which the art depends. There is urgent need for the establishment, in connexion with the University, preferably in East London, of a school of nautical astronomy and navigation, including the applications of magnetism and meteorology to the sailor's art.

What London University wants, on this side of the science faculty, is, to put it briefly, an extensive and fully equipped institute of technology, embracing and co-ordinating the work already going on in this vast subject, with special departments for such branches as mining and metallurgy, naval architecture and marine engineering, railway engineering and hydraulics, electric traction and power-transmission, electrochemistry, optics, the various branches of chemical technology, and all possible applications of biology. Such an institution, which could place the new buildings needed for its new departments on the land lying vacant at South Kensington, should admit only graduate students, or others adequately qualified, and

should lay itself out from the first to be a place of research in which there would be little teaching, in the ordinary sense, but only opportunities for learning—for every sort of investigation, carried out by professors and advanced students, individually and in co-operation.

Such an institution, it is good to learn, is now projected, under the stimulus of a munificent offer by Messrs. Wernher, Beit and Co., communicated by Lord Rosebery to the London County Council, and promptly responded to by that body, by a conditional undertaking to contribute £20,000 a year towards the maintenance. The matter is (November 1903) now under consideration by the National Government, which, by making its Royal College of Science and School of Mines, its range of splendid new laboratories, and its extensive educational equipment, as it were, the nucleus of the proposed closely-knit organisation, might construct, with the co-operation of the Central Technical College, and the existing departments at University and King's Colleges, at the same time the largest and the best arranged technological faculty in the world.

Paradoxically enough, in the Faculty of Medicine, the way to increase post-graduate

work and original research of advanced character, and thus pull the whole faculty together, is to transform the present arrangements for elementary teaching. Its peculiar need relates to the first two years of the medical student's life, during which the future doctor does not "walk the hospitals," but applies himself exclusively to chemistry, physics, anatomy, and physiology. The four or five hundred students who annually enter upon their medical course in London are now dispersed among twelve different medical science schools, where twelve different sets of poorly paid science teachers preside over twelve imperfectly equipped laboratories. It has long been recommended, and is now on all hands agreed, even by the twelve medical schools themselves, that it would be far better to concentrate the preliminary scientific studies of all the medical students in one great science school, controlled by the university itself. Such a school, for which, too, the land is available at South Kensington, should provide laboratory accommodation for at least a thousand students, and might cost a quarter of a million to build and equip. The result would undoubtedly be a vast improvement in the scientific education of our doctors. What is of even greater importance is that it

would set free the existing accommodation at the twelve hospital schools, together with their funds, for the further study of disease. Notably in cancer and phthisis are we sadly in need of more systematically organised research—research not undertaken at present because the accommodation, funds, and energies of our great hospitals are partly devoted to teaching raw students the elements of chemistry or the mysteries of "bones."

Nor must we overlook, in a university for the greatest commercial, financial, and administrative centre, the need for post-graduate work and further discovery in all that is comprised under higher commercial education, the faculty of "Economics and political science (including commerce and industry)." The university commissioners shrank from establishing a "faculty of commerce," but rightly separated economics from arts, and started a new faculty for the whole range of subjects which appeal to the statesman and the financier no less than to the banker and business man. Besides University and King's Colleges, which continue their old-established courses in economics, the teaching in this faculty is mainly carried on by the London School of Economics and Political Science, as a school of the university, now

housed in the new building at Clare Market which it owes to the munificence of Mr. Passmore Edwards and Lord Rothschild. This gives us a nucleus of over a thousand students, drawn from banks and shipping firms, railway administrations and Government departments, with a considerable intermixture of post-graduate students from all over the world. In this faculty what is needed is not more buildings but more professorships. What with specialised instruction in currency and banking, international trade and foreign exchanges, economic or industrial geography and commercial history, the higher accountancy and the principles of actuarial science, the methods of statistics and the organisation of business—what with the necessity of providing separate courses of practical instruction for the young merchant and the banker, the civil servant and the railway administrator—not forgetting, meanwhile, the research student in all these branches and a school of history, the needs of this faculty in the way of endowment cannot be put, if we are to see London level with Paris, or even with New York, at less than a capital sum of a quarter of a million.

In the Faculty of Law, whilst such undergraduate teaching as exists remains, at present,

outside the university, there is practically no provision in London for post-graduate study or advanced teaching. This is a faculty in which the initiative rests with, and the work must practically be undertaken by, the Inns of Court and the Incorporated Law Society. Besides the comparatively elementary instruction of the young solicitor and bar student, there is room for a considerable development of specialist and advanced lectures in legal history, scientific jurisprudence, comparative legislation, and international law, for which we may hope that the great and wealthy lawyers will one day provide, either individually or in their capacity as benchers of the Inns of Court, the necessary ten thousand a year. Meanwhile we may find more consolation in the fact that the large sum of money, amounting it is said to £100,000, derived from the sale of New Inn and Clifford's Inn, is held in trust for legal education, and that the Attorney-General is preparing a scheme.

Thus, London University wants, on what may be called its higher side of post-graduate work, specialised teaching and original research, something like £500,000 capital for building and equipping the new departments of an institute of technology, £250,000 for building and equipping a school of preliminary medical

studies, and £250,000 for the necessary extension and re-equipment of University College, and possibly one or two other central institutions, in order to transform their buildings and laboratories from the needs of undergraduate to those of post-graduate work and research. It requires, moreover, an income of, say, £30,000 a year, so as to enable the senate to take the principal professors in each faculty into its pay and set them free from dependence on undergraduate classes, £30,000 or £40,000 a year for a great school of languages, £20,000 a year for the upkeep of the institute of scientific technology, £10,000 a year for all the ramifications of the economic faculty and higher commercial education, and £10,000 a year for the law faculty.

With resources of this magnitude at its disposal, the senate would find little difficulty in transforming the central colleges into essentially post-graduate centres, including research departments under the principal professors, the faculty libraries and the faculty headquarters. University College seems marked out for science, the Central Technical College for engineering, and the London School of Economics for its own faculty, whilst King's College, besides serving as the headquarters for theology, might usefully be made that of the school of languages; unless,

indeed, the London institution, with its magnificent site in Finsbury Circus, just outside the city, could be made available for this purpose. This work of concentration of the higher teaching and original research could be carried out by degrees. Meanwhile the multiplication of the centres for undergraduate teaching would have to keep pace with the local demands. To the fifteen existing science and engineering centres would be gradually added at least half a dozen others, notably in the outlying districts, at a cost of several thousands a year each.

To sum up. What London University needs to make it equal to its great opportunity, in its triple division into undergraduate teaching, post-graduate study, and original research, is an expenditure of one million sterling in buildings, alterations, and equipment, together with the provision, by way of endowment, of a new income between £120,000 and £150,000 a year, equal to, say, four millions. For five millions sterling—only half what has been given by a single benefactor to a single university in the United States—London's University can be fairly launched. This sum could with advantage be drawn from distinct sources. The new buildings and equipment, together with the endowment of the principal professors in all faculties

—say, two and a half millions in all—must come practically as capital and might be collected from individual donors. The other half of the total cost, including the annual maintenance of the school of languages and of the institute of technology, together with the whole provision of undergraduate teaching and of scholarships, would be within the compass of a halfpenny rate, which the local authorities concerned, if appealed to in a sufficiently striking way, might perhaps be persuaded to levy.

But whether or not the necessary sum is at once forthcoming, the authoritative formulation of a comprehensive scheme for the university as a whole is urgently required. Such a scheme could be taken up in such parts and at such times as commended themselves to private or public benefactors. Individual donors could transform University College into a post-graduate centre and headquarters of the science faculty, establish a central medical science school, build and equip a "Charlottenburg," or endow the faculty of economics, without impairing the chance of subsequently dealing with equal completeness with other needs. The authoritative promulgation of such a comprehensive scheme would offer untold advantages over the present chaotic struggle of separate institutions to extend

and supplement themselves in all the departments of learning, without regard to what is done elsewhere. Such a scheme, moreover, would immensely improve the chances of securing gifts both small and great. "University education" is too vague a term to attract any large measure of support. We must present each part of the work to the class or section to whom it most appeals. It may be that we must forego in London University the culture born of classic scholarship and learned leisure. But if we can show that there is no incompatibility between the widespread instruction of an undergraduate democracy and the most effective provision for the discovery of new truth; between the most practical professional training and genuine cultivation of the mind; between the plain living of hard-working students of limited means and high intellectual achievements, we shall not, I venture to believe, appeal in vain. London University must take its own line. They are futile dreamers who seek to fit new circumstances to the old ideals; rather must we strive, by developing to the utmost the opportunities that the present affords us, to create out of twentieth-century conditions new kinds of perfection.

CHAPTER III

THE ORGANISATION OF COMMERCIAL EDUCATION

It is now nearly twenty years since the London Chamber of Commerce, with an initiative which does it credit, convened a conference to consider how we could improve our commercial education in London. For nearly twenty years the subject has been debated and discussed by schoolmasters and merchants, administrators and educationists; but the time has not been wasted. We have, I believe, all learned a great deal about needs and possibilities. We have discovered that we have already at our disposal much more commercial education than we imagined. Much has been done, meanwhile, to increase and improve that provision. And we are, I think, able with some confidence, and wide general concurrence, to lay down the lines on which the commercial education of a great city such as London can be, and should be organised.

We know now, for instance, that by com-

mercial education we must mean, not merely instruction in any one subject or set of subjects, judged superlatively useful—nor yet education of any one grade or kind, regarded as specially lacking—but simply the best possible education of the man (or woman) who expects to spend his working life in an "office" or in "business" of one sort or another. We no longer accuse each other of ignoring "culture," or excluding what Dr. Arnold called the education of the citizen. Nor, on the other hand, do we denounce any subject not visibly subservient to office routine as "mediæval pedantry." We find that we all really want the same thing, namely, the particular sort of education, whatever it may prove to be, which will enable our "business men" to fulfil most perfectly all their functions, however diverse, in the organised community of which they form part. We have, in a word, when training the future business or any other man, to see his life "truly," and to see it "whole." The old-fashioned grammar-school master was too ignorant of the world and too prejudiced to see it "truly," and Mr. Gradgrind was too uncultivated to see it "whole."

We realise, too, much more clearly, the immensity and diversity of the class of citizens about whose education we are concerned.

London is, above all other cities, the city of offices. It has not only far more clerks, and more kinds of clerks, than any other city, but probably more also in proportion to its total population. And though London also carries on, in the aggregate, more manufacturing industry, and more kinds thereof, than even Glasgow or Birmingham, yet owing to the decay of apprenticeship and the refusal of many London manufacturers to cumber their highly-rented workshops with boys, a much larger proportion of London lads go into offices than is the case in other cities. London, too, is, in nearly every business, the head office of the world. Great banks, insurance companies, railways, and international enterprises of every kind, with branches and works all over the United Kingdom or the world, have their principal centre of administration, or one of their principal centres, in the "five million city." Then there is the great and growing service of public administration. There are 20,000 civil service or municipal clerks and officers in London, without including as many more messengers and other subordinates. There are 30,000 merchants, brokers, factors, commercial travellers, etc. The bankers and their clerks number over 8000, whilst those engaged

in the great business of insurance exceed 5000, and there are no fewer than 8000 clerical officers at work in London at the administration of the railways. These large numbers are irrespective of the great army of merely commercial or business clerks, not further defined, of whom there are in London over 100,000. We have thus a total of at least 200,000 persons at work in London offices, before we begin to count the dealers, manufacturers, and shopkeepers themselves. Commercial education in London means, therefore, the education of at least one-fifth of the whole population.

The man who realises these figures is driven to admit that the problem of providing commercial education is a bigger and more complicated one than he had supposed when he began to think about it. When, in 1893, the American Bankers' Association sent an able professor across the Atlantic to find out how other countries provided for the education of business men, that professor passed over the United Kingdom altogether, on the ground that there was no education of business men there! It would be sad, indeed, if one-fifth of the people of London, including a large proportion of those by whose activities it lives and thrives, were, as recently as 1893, getting no systematic education in

preparation for their life-work. But Professor James was misled by the talk of the business men themselves. To this day the foreigner is amazed at the contrast between the skill and energy with which our leaders of commerce and finance manage their ever-increasing business, and their ingrained disbelief in there being any desirable "commercial education" at all. The fact is that business men usually forget (or are, indeed, unaware of) how much they themselves owe to their schools and colleges. They think that what they know they have "picked up" in the city. It does not seem to occur to them to inquire by what long process of mental training they came to be able to "pick up." Nor do they stop to think what they would do if they had not at their command clerks and subordinates able to do what they themselves cannot accomplish; skilled in languages, acquainted with the business organisation of other countries, versed in the intricacies of currencies and international exchanges, up in foreign tariffs and port dues, competent to form a judgment as to the effect of a new tax or a new law on the course of trade, able to calculate actuarial probabilities and insurance risks—above all, trained to apply a well-informed intellect to the minor problems

on which the smooth and successful working of any considerable business depends. This cannot be "picked up" in the city. We need not dispute, as one eminent German said to me, that the English merchant or banker enjoys, in his daily converse with his equals, the best commercial education in the world. "What he needs," continued my friend, "is more instruction in commercial subjects."

Let us see what we have got in London to supply this need, and where we still fall short, in quantity or quality. We must divide the provision into three grades. There is first the instruction and training of the youth before entering business life — the school, whether primary or secondary in grade. No less important are what may be called the continuation or supplementary provisions — the evening classes available for the young clerk, or the day commercial courses supplementing the secondary school. And thirdly, perhaps most important of all to the community in the long run, there is the provision of what we call higher commercial education, required by the subaltern officers of the commercial army, if not also by the gifted and possibly heaven-sent commercial field-marshals themselves, and therefore to be sought for by every able and ambitious subordinate.

We have therefore to consider—

I. The day school for the future business man, primary or secondary in grade.
II. The continuation or supplementary classes, day or evening, for the youth who has left school.
III. The commercial department or faculty of university rank.

I. Our Commercial Day Schools

(*a*) *Primary*

The great majority of the eight or ten thousand recruits who each year join our army of two hundred thousand clerks and business men come straight from the public elementary school. London has at last caught up its arrears in the way of primary school accommodation, and the thousand existing separate school buildings, scattered over 120 square miles, would contain all the child population, if only it would not shift steadily outwards, from the centre to the suburbs. These schools, partly under the School Board, partly under denominational management, have steadily improved in general efficiency. They set themselves, under the direction of the Board of Education, to give their boys and girls a thorough grounding in speaking, reading, and writing

English, in arithmetic, in modern history and contemporary geography, in elementary science, with the addition, as regards many of the boys, of some elementary knowledge of French. It is from these schools that we must draw our office boys and, to a large extent, our junior clerks. We do not call them commercial schools — a term which, in England, is abandoned to the private venture school—but they are, and must necessarily be, the schools in which all the lower ranks of our commercial army are educated. How do they perform the work?

Now, it is common to hear employers declare that these schools, whatever they may do in other directions, are a failure as places of commercial education. "What I want," said one of of them, "is a boy who can write plainly and quickly; who can spell and can be trusted to turn out a decent letter; who can add up with accuracy, and who has some 'gumption' about his work. That is all I ask for, and that is what I cannot get." That is all he asks for, in a boy of fourteen! I wonder how many of us at that age could have come up to such a standard. The fact is, that employers have an altogether exaggerated idea of what, under the conditions of the problem, is physically possible. They expect too much from boys on leaving school.

To catch the entire child-population of a great city, to drive into school and keep it there, to train it to cleanliness, order, and disciplined obedience, to make it master the intricacies of the most difficult of all languages in spelling and pronunciation, and acquire the habit of quick and correct handwriting, and a capacity for accurate arithmetic—all this constitutes a herculean task. One can only most devoutly thank the school authorities and teachers for succeeding as well as they do. The employer who wants what a century ago would have been considered an Admirable Crichton of a junior clerk must not try to get it at the age of fourteen or at ten shillings a week.

All that we want further for commercial education from our elementary schools is really only a levelling-up in quality. They teach the right subjects, and they aim at the very standard that our grumbling employer sets up. The trouble is that in only a certain proportion of instances is that standard attained. What we have to do is to strengthen the staff and screw up the efficiency of the Board Schools to the high level of, say, the Fleet Road School; and (what is still more needed) raise the denominational schools to the level of the Board Schools. The most serious evil is the

the teaching staff in these upper standards—there does not seem any insuperable obstacle in presently making every large elementary school in London into what, ten years ago, would have been considered a good higher grade school. The exceptional will have become normal, and the very success of the higher grade school may thus cause it, as a distinct kind, to cease to exist. And if the Board of Education, instead of or in addition to its present very high grants to "higher elementary schools"—confined to those which adopt an excessively scientific curriculum of very doubtful value, and limited by many cramping regulations—would make a moderate addition to the present block grant for children over thirteen under efficient instruction in the seventh or ex-seventh standards, this beneficent transformation of every large school into a higher grade school would, to the special advantage of commercial education, be greatly accelerated.

(*b*) *Secondary*

The practical distinction between primary and secondary schools, as we now recognise, lies not in the subjects taught, but in the age at which the scholars intend to leave school. For the boy or girl expecting to leave school at

fourteen or even fifteen, the best we can do in the educational way is to provide the most efficient higher grade or "higher elementary" school. But some boys and girls will remain at school until sixteen, seventeen, or eighteen, either because their parents can afford it, or (as now in increasing numbers) because they have been picked out by maintenance scholarships. For them the curriculum needs to be dealt with in a different way. The work, spread over a longer time, can be taken with a wider outlook and with greater reference to cognate subjects. There is time for more attention to mental training and cultivation, as distinguished from mere instruction. The scholar's own reading, the scholar's writing of essays, even the scholar's powers of dialectic, become much more important allies of the class teacher than is possible with children of less cultivation or more tender years. The foreign language studied may itself be made an important instrument of cultivation, and a second—even a third—language can be added. Thus, the secondary school is, and must always remain, essentially different from the primary school, however we may widen the range and improve the quality of our elementary education. From the secondary schools come a large proportion of those who enter city offices

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as clerks; practically all the bank and insurance staff and the civil service, and nearly all the sons of business men who are destined to succeed to their fathers' positions. Here, accordingly, we need a "commercial" education, even more than in the elementary and higher grade school.

So unaware are we Londoners of what London is, that few of us realise that the great city has now a more extensive series of secondary schools, under essentially public management, maintained out of public funds, and many of them giving a more characteristically "commercial" education, than any other city in the world. Including the very efficient dozen London schools of the Girls' Public Day School Company and similar bodies (only in form joint-stock companies, and administered with entirely public objects), there are at the present moment no fewer than eighty-five publicly managed secondary schools within the administrative county, thirty-nine for boys, thirty-nine for girls, and seven for both boys and girls. These schools, distributed all over London, charge fees varying from the fifteen to thirty guineas a year of St. Paul's School, University College School, Dulwich College, Merchant Taylors', Blackheath, Westminster, and other "first grade" schools, down to the two or three pounds a year of most of the Polytechnic

day schools, and such endowed "second grade" schools as Raine's. Between these extremes lie the great mass of public "intermediate" schools, such as Owen's, Alleyn's, Aske's, Central Foundation, Roan, Latimer, and others, distributed over all parts of London, charging four to eight pounds a year, and giving, for the most part, a very efficient education of an excellent modern type. In a few cases reduced fees are charged to pupils coming from elementary schools. Some of them have valuable entrance scholarships, and others "free places" —which, strange to say, cannot always be filled. And recruiting them annually by some 600 of the cleverest boys and girls from the elementary schools, there is the effective "scholarship ladder" maintained by the London County Council. Some of these schools are old, and some are new; but the old ones have nearly all been drastically reformed within the past twenty years. During the past ten years, in particular, during which forty-six of these schools have been under the supervision of the Technical Education Board of the London County Council, they have all been considerably improved. The teaching of science has been revolutionised, with a view to making it of practical use as an instrument of education. Dozens of school

laboratories and manual workshops have been built and efficiently equipped. Drawing and modern languages are now being gradually brought up to the same level. But there has been no attempt to plane these schools into uniformity. Each of them has its own incorporated body of governors, usually including some representatives of the County Council, and sometimes, also, of the Borough Council. Each has its own distinctive character, its own characteristic tone and tradition, and its own peculiar curriculum. In no city in the world is there such a wide range of choice for the parent, or such excellent variety; and certainly in no English city is there, taken as a whole, a more efficient or more suitable provision of secondary education.

Judged merely as "commercial" schools—that is, as schools adapted to give the wisest possible education to the youth who will enter a business office at sixteen or eighteen—these schools naturally vary in excellence. Nearly all of them make a strong point of English and arithmetic, and all of them teach French. Practically all of them give a second modern language, usually German, but at least in three cases Spanish. The "first grade" schools are perhaps, from the special point of view that

I am now occupying, more open to criticism. It is to my mind an unsatisfactory feature of these schools, viewed from the standpoint of the education of the business man, that they should remain so completely subservient to classical or mathematical requirements of Oxford and Cambridge—very largely the effect of the scholarship and school examinations conducted by those universities. In spite of all the improvement in English middle-class schools, since Matthew Arnold bewailed their inefficiency —an improvement which I believe to have been greater in London than anywhere else—most of them still seem to me to suffer from not being quite sure what they are aiming at. I do not pretend to know what school curriculum will fit boys most successfully to be clerks or merchants, civil engineers or bankers, actuaries or chemists. Such a curriculum would perhaps have no very obvious connection with their future work. But I cannot believe that the best curriculum in each of these separate cases is identical with the best curriculum for all the rest, and for a university career. The idea that a "good general education" of a literary or classical type is an adequate, if not indeed the best, preparation for every kind of career, sounds like a survival from the Middle Ages.

This has, during the last few years, become increasingly recognised in some of these London schools. The headmaster will often admit that there should, at any rate, be a clear distinction between an educational course which ends at sixteen or eighteen and one which is intended to be continued up to twenty-two or twenty-three. Yet so strong in England is the tradition that education is one and indivisible, that most of the "first grade" schools go on pretending that all their scholars are preparing for Oxford or Cambridge, habitually working up to the same system of examinations, and pursue accordingly much the same curriculum with merely minor variations as to the relative time allowed to the several subjects, though they know that the majority of them will go straight into the city. This muddling up together of "gymnasium" and *realschule*, of *lycée* and *école commerciale*, cannot but be detrimental to both varieties. There must be room for some schools, which need not be called commercial schools or bear any other badge of supposed inferiority, but which should reject all connection with the classical or mathematical sides of the university, which should decline to follow its traditional curriculum, and which should arrange a course of studies deliberately

based on the needs of boys who will become clerks in commercial offices at sixteen or eighteen. We want, in fact, at least three kinds of secondary schools—one aiming at university scholarships; another giving a carefully devised, predominantly scientific training, with languages and literature taking a second place; and yet a third, in which the languages, literature, and history of at least two modern countries besides our own will be made the basis of the intellectual training, with economics, geography, and physical science holding a subordinate position.

This, I know, will be misunderstood, as involving a too early "specialisation," the loss of culture, and so forth. It is the crudest of misconceptions to suppose that such a curriculum would be made up of shorthand and book-keeping, or the playing at commercial transactions—once tried (and, I believe, abandoned) in some German "commercial institutes." The inimitable Stock Exchange school, described in R. L. Stevenson's novel *The Wreckers* is scarcely a wilder parody. What I am advocating involves no "narrowing" of the curriculum. It implies, on the contrary, the inclusion of much more culture, the taking of a wider view of existence, a great deal more of "seeing life truly and seeing life whole," than the average

secondary schoolmaster, experienced only in one narrow line, is as yet either capable or conscious of. One of the greatest difficulties in the way is, indeed, the lack of adequately trained teachers. But it does mean the abandonment of scholastic prejudice and tradition in favour of a purposeful adaptation of means to ends. It means putting a great deal of deliberate contrivance into the business of making the most of three or four years of a boy's life.

At any rate the experiment is worth trying, and it is now being tried, in one of London's most efficient "first-grade" schools. In 1899 the Technical Education Board of the London County Council began to send a few selected teachers to study at the best French, German, Italian, Swiss, and Belgian institutions for high commercial education, with a view to their learning the best methods at work. With the experience thus gained, a special department was established at University College School for the purpose of providing the most carefully planned and the very best commercial education, of first-grade secondary type, that money could buy. Here the commercial department shares in all the tradition and corporate life of the school. It is recruited, not from the dull boys, but from those of exceptional ability.

Every care is taken to make the three or four years' course thoroughly educational in character, with full regard for culture and intellectual training, rather than mere instruction. But the department prepares for no external examination, and follows no traditional curriculum. Greek and Latin find no place. Modern languages are taught in the most approved practical way, with quite remarkable success. Every subject of study, every method of teaching, the whole distribution of school-time has been deliberately planned with the sole object of giving the best possible education for the youth who is expected to enter an office at eighteen, and eventually take a responsible position in the business world. The department is still only in its fourth year, so that it is too soon to ask for results. But the reports of those who have inspected the work are full of encouragement. In 1903, for the first time, half a dozen of the boys from this school presented themselves for the Intermediate B.Sc. examination of the University of London, in the newly organised faculty of economics and political science, which includes in its scope commerce and industry. Their success, after three years of mere school work, was such as to astonish the university examiners. Alike in modern languages and in sound training in

economics, alike in powers of thought and literary expression and in the knowledge of the organisation and problems of modern commerce, these boys of eighteen demonstrated how fallacious is the assumption that the secondary school cannot, without sacrificing its highest qualities, give any useful training for the merchant's office. The experiment of this commercial department at University College School, which now includes sixty or eighty boys between fifteen and eighteen, deserves more attention from those interested in secondary education than it has yet received. It may go far to revolutionise the traditional curriculum.

II. Our Continuation Classes in Commercial Subjects

But whether the youth leaves school at fourteen to fifteen or sixteen to eighteen, it is clear that his commercial education can be, at that age, by no means complete. Every youth in a business office ought to be attending evening classes in such subjects as shorthand and bookkeeping, which are unfit for a school curriculum; and in French, German, and if possible, a third language. Ample provision for such commercial education is now made in London. There are,

first, the 400 centres at which the School Board has conducted, either gratuitously or at a trifling fee, somewhat rough-and-ready evening classes in all these and many other subjects. About a dozen of these are designated "commercial schools," in which special attention is given to the subjects favoured by the young clerk. Standing above these in pretension, and, I venture to think, also in quality, are the evening classes in commercial subjects at the Birkbeck College and other polytechnics, or similar establishments, supervised and aided by the London County Council. Here, at one or other of about twenty centres, the young business man can find practically every subject and every grade of instruction that he needs, at convenient hours and low fees—not only French and German, but also Italian, Spanish, Portuguese, and Russian; not book-keeping only, but also economics, industrial geography, and commercial law. During the last few years the London Chamber of Commerce has conducted evening classes which aim at being even more specially adapted to business men than those of the Birkbeck College; and these have, at any rate, supplied a third alternative method of enrolment. By admitting the clerks of all subscribing firms without fee, many clerks have been induced to attend, if only for a few

evenings, who have not hitherto been attracted either by the School Board free classes, or the fees of the Birkbeck.

Classes in commercial subjects of this continuation or supplementary type are held also in the daytime at the Northern Polytechnic, the Goldsmiths' Institute, and various other polytechnics. At the South-Western Polytechnic they have developed into a regular day "college," which now exceeds the evening classes in the magnitude of its work. Here we have systematic instruction for young men and young women, from the age of sixteen upwards, in all the subjects needed by the clerk, the private secretary, the commercial agent, or, in fact, any kind of office work. It is not exactly a school, and it can scarcely aspire to be a university college. But it is much more than a congeries of isolated classes, and the extent to which it is taken advantage of proves that it fills a useful place in London's commercial education. A similar development will shortly take place in the city itself, in the projected extension of the City of London College, for which the Mitchell Trustees have advanced £15,000, and the balance of £10,000 is being collected among the City Companies and other friends. The new building will be devoted to commercial subjects, and, as

at Chelsea, the experiment will be tried of adding morning and afternoon to the evening classes, so that the boy fresh from a classical or mathematical school may be able to spend a few months, or even more, over his French and German, his arithmetic and handwriting, his geography and economics, before actually entering an office.

The greatest deficiency in all this range of work appears to be the inadequacy of the teaching of modern languages. Even the number taught at all is curiously small. One would have supposed that, in a city like London, coming into contact with every race on earth, and having at least a quarter of a million business men to draw from, there would have been a demand for teaching in every language under the sun. At Paris and Berlin between twenty and thirty modern languages are regularly taught, often gratuitously, to all comers. In London, where, so far as I can discover, only a dozen appear in the prospectuses, the clerk or business man who wanted to learn Malay, Maltese, Armenian, Japanese, Annamite, Tamil—to say nothing of the Scandinavian languages, or even Welsh or modern Greek—would find considerable difficulty in getting instruction at low fees and convenient hours. There ought to

be provision—the most fitting place seems to be the City of London College—for instruction in every language under the sun with which the trader, the missionary, or the official ever comes in contact. And though evening classes ought to be held, the provision should not be confined to these. It ought to be possible for a man who has received an appointment, or who sees a chance of one, or who expects to be going abroad in a few months, to put in continuous work, under an expert teacher, for hours and days and weeks at a time. This is how really determined men learn a language when they need it. They will often pay a substantial fee for the necessary tuition. At present no public institution in London can provide for this need.

On the whole, however, it must be said that the provision in London of commercial education of this "continuation" or supplementary kind fully keeps pace with the demand for it. Except at such specially successful centres as the Birkbeck and the Regent Street Polytechnic, the existing class rooms are often far from full, and some advertised courses fall through from lack of students. The root of the evil is a certain lack of desire on the part of the young men themselves, and the failure of the employers to make

their clerks aware that they ought to attend evening classes. The numbers on the rolls, great as they are, represent only a small proportion of the young men between sixteen and twenty-five, and I fear we must conclude that the majority do not trouble about anything but football or bicycling after their office-day. This is where the German clerk gets ahead of us. "I much prefer English clerks," said the head of one of the very largest firms in the city, "but I find my office full of Germans. The English clerk takes no intellectual interest in his work, and seems to give his mind to sport." But this, I venture to think, is largely the fault of employers. If they made a point of pressing their younger clerks to attend evening classes, and considered the fact in their promotions, the students would soon be multiplied three- or four-fold.

III. Our Commercial University

Compared with Paris, the most conspicuous deficiency in London's commercial education has been, until lately, the absence of any provision for higher commercial studies. "When the Technical Education Board began its work," reported in 1899 its special committee on commercial education, "the only provision of any-

thing approaching to commercial education of this grade consisted in one or two courses in abstract economics, commercial law, etc., at University and King's Colleges, which did not succeed in attracting many persons designed for or engaged in commercial pursuits. It was seriously doubted whether any demand existed for more teaching of this grade." Yet in Paris the visitor may see, in the very heart of the city, a splendid building which cost over £100,000 —the École des Hautes Études Commercielles— exclusively devoted to the training of young men between nineteen and twenty-two in the special subjects needed by the merchant or banker. Here are studied economics, and especially the history and present organisation of the world commerce; industrial and commercial geography; the outlines of the commercial law of the principal trading nations; their customs, tariffs, and commercial systems; their factory laws and other regulations affecting industry; and the methods and routes of transport by sea and land. In another street the visitor will find the École Libre des Sciences Politiques, where the future diplomatist and consular officer, the future financial or customs administrator, goes through a similar training, specially adapted to his official duties. These are both institutions of university

status—indeed, largely of post-graduate rank—very widely supported and disposing of ample means. They provide, in effect, a university curriculum as carefully adapted to the needs of the undergraduate who is going to be a leader in business or the official world, as the medical faculty does for the undergraduate who is going to be a doctor. We have long needed in London a high commercial and administrative college of this type, the absence of which was specially regretted in 1894 by Lord Cowper's Commission on the reorganisation of London University. Acting on this hint and the contemporaneous proposals of the London Chamber of Commerce, the London School of Economics and Political Science was established in 1895, to carry out the suggestion of the Cowper Commission, and care was taken that the more strictly commercial side of the work should not be neglected. It is, indeed, largely owing to this side that the school has been from the first a success, having now over a thousand students, from eighteen years of age upwards, mainly drawn from the ranks of those engaged, or about to be engaged, in banking, shipping, foreign trade, insurance, railway administration, and the national and municipal civil service. The aim of the governors is to provide, for the business or

official administrator, an education which should be genuinely of university rank, such as has long been available at Paris and elsewhere. As expressed in the prospectus of the school, by "Higher Commercial Education" is here meant "a system of higher education which stands in the same relation to the life and calling of the manufacturer, the merchant, and other men of business, as the medical schools of the Universities to that of the doctor." The curriculum of the London School of Economics includes, on its commercial side, economics and statistics, including particularly the concrete description of the organisation of the modern business world at home and abroad, the history and geography of the world-commerce, international trade, economic and industrial history, methods of transport, railway administration, accountancy, insurance, banking and currency, commercial and international law, finance, and taxation. But all these subjects are not taken by all the students. "Experience shows," remarked the Special Report on Commercial Education from which I have already quoted, "that commercial education of this high grade requires to be differentiated according to the occupations for which its students are preparing, or in which they are engaged." In fact, if you offer the clerk or

business man simply an undifferentiated something which you call commercial education, he will, quite rightly, pass by on the other side. It is useless to appeal to the business man as such. He disdains and despises — perhaps rightly—any academic instruction under such titles as "Methods of Commerce" or "Business Training." The great army, which seems to the academic student to form a single class, must be broken up. The merchant, the shipowner or shipbroker, the corn-factor, the produce-broker, and their principal employés, form, perhaps, one complex group, which is between twenty and thirty thousand strong in London. The insurance clerks, actuaries, and public accountants, —numbering, perhaps, another ten thousand— have quite different requirements, and need themselves to be split up again into three or even four distinct groups. The great army of railway officials, from the assistant traffic managers down to the junior clerks in the secretary's office, need yet another kind of instruction. The eight or nine thousand clerks in banks and finance houses have specialised wants of their own. Finally, there are the twenty thousand clerks employed in public administration, national or municipal, for whom a distinct curriculum has to be provided. For

each of these groups a distinct and highly specialised curriculum has to be prepared, of a character beyond the scope of the ordinary professor. Let us take as an example that great section of the business world engaged in the railway service. Various great railway companies now send each year to the London School of Economics a selected contingent of their clerks and assistant managers to go through carefully planned courses of instruction in railway law and railway accountancy, the application of economics to such specialist problems as railway rates and railway electrification, the organisation and formulation of railway statistics, together with railway history and railway geography, and the comparative study of the methods of administration, and relations to the state, of the railway systems of other countries. This curriculum has been worked out, in the eight years' experience of the school, by the help of frequent consultation with such practised railway administrators as the late Sir Joseph Wilkinson of the Great Western Railway, Mr. Inglis, his successor on that line, Mr. Gibb of the North-Eastern Railway, and Mr. Bury of the Great Northern Railway. Other sections of the business world, such as the bankers and dealers in the foreign exchanges, those engaged

in general merchanting and the shipping trade, the various branches of insurance, the actuaries and accountants—to name only some of the different groups—are dealt with on similar lines. Such a differentiation of curriculum, coupled with the need for highly trained teachers, and the occasional services of expert business men themselves, makes commercial education of this high grade quite exceptionally costly. But there is no other way of providing anything that is not a useless sham, and if London is to have anything like the advantages of Paris, considerably increased funds must be devoted to this part of the work.

Something more than funds is, however, required. In 1893 Professor James noticed the absence of academic recognition of higher commercial education as the greatest obstacle to its progress. "What then," he said, "is lacking in this economic (commercial) education to make it in demand? It lacks only the sanction which crowns university studies. It is not sufficient to open the doors of entrance into the schools of commerce, one must also open the doors of exit. Nothing further can be done until the legitimate demands in favour of economic instruction shall be met, and it shall be placed on a par with classical education." [1]

[1] *The Education of Business Men in Europe*, by Prof. E. J. James (New York, 1893), p. 155.

This lack of academic recognition is now remedied. During the protracted negotiations which led, between 1894 and 1900, to the reorganisation of London University, the London County Council strongly urged the desirability of making distinct and separate provision for higher commercial education. "We regard it as important," said the Special Committee of 1899, "that commercial education of this high grade should form an integral part of the re-constituted London University, and that it should be distinctly recognised, as constituting a separate faculty or department of a faculty. Such university recognition is essential in our view both to give *status* to the higher branches of commercial education and to increase their attractiveness to students of the highest mental capacity. But it is also of the utmost importance to commercial education itself, as tending to ensure a high intellectual standard, and to counteract a tendency to an unduly narrow utilitarianism."

The University Commissioners met this demand by the establishment of a separate "Faculty of Economics and Political Science (including commerce and industry)," having its own curriculum in its own subjects, and leading to its own distinct degrees of B.Sc. and D.Sc.

This faculty now comprises more than twenty professors, all at work in London, teaching one or other of the subjects that have already been described. The largest part of this instruction is centred at the London School of Economics, which has not only complete degree courses, both day and evening, but also makes a speciality of the original investigation and research on which the D.Sc. is awarded. University College, too, less favourably situated for business men or Government clerks, makes considerable provision for instruction in the subjects of this faculty, which is also represented at King's College. And besides these centres, the Birkbeck College has its steadily successful classes in economics under recognised teachers of the University.

The new "commercial" faculty of the University of London thus fitly crowns the organisation of commercial education in London. The whole field is mapped out, and to some extent covered. What is wanted to make the whole organisation worthy of the greatest commercial city that the world has ever seen is, in the first place, more appreciation by the public of what exists, and more sympathetic attention by business men to what is actually being provided for them. This increase of knowledge and sympathetic attention by heads of business

houses would soon lead to greater zeal for commercial education among their subordinates. And if to this greater publicity and greater zeal could be added the potent stimulus of an intelligent donor—a man who knew how to put down his money, whether it be one or one hundred thousand pounds, in the way to produce the greatest results—there could be added the almost indefinite extension produced by additional annual subsidies from national and municipal funds. What is most wanted at this moment, in commercial as in other higher education in London, is the driving power of conditional private donations, large or small.

CHAPTER IV

THE ORGANISATION OF THE POLYTECHNICS

In the so-called "Polytechnic Institutes" we are trying an educational experiment of considerable interest, which has already achieved a remarkable success, and which promises a still more remarkable future. In London, perhaps even more than in other great cities, one of the most difficult of educational problems has been how to deal with the young men and women between sixteen and twenty-five, who have left school and are earning their livelihood during the day, but whose general culture and technical training obviously has in some way to be provided for. In the absence of any kind of compulsion, neither night-schools nor mechanics' institutes, neither boys' clubs nor evening classes, have ever succeeded in attracting more than an infinitesimal fraction of the population. The various mechanics' institutes which the energy of Dr. Birkbeck and Francis

Place established in London between 1825 and 1836,[1] failed to secure the adhesion of the young artisan, and, with one remarkable exception, gradually faded out of existence. The one exception, the well-known Birkbeck Institution, off Chancery Lane, after passing through vicissitudes of fortune, became a flourishing centre of evening instruction, mainly resorted to by the young clerk, and now constitutes, under the name of the Birkbeck College, the largest of the three branches of the City Polytechnic. The Working Men's College, founded in 1854, the City of London College, founded in 1860, and a few smaller institutes, stood out from the general failure, but themselves attracted only a tiny proportion of the whole. Even the evening continuation classes of the School Board for London, designed especially to catch the boys and girls leaving the Board School, long failed to fill, and have until lately increased with deplorable slowness. In 1880, when London contained over three-quarters of a million young people between the ages of sixteen and twenty-five, there were probably not two per cent of the young men, and only

[1] See Mr. J. G. Godard's *George Birkbeck* (London, 1884); and Mr. Graham Wallas's *Francis Place* (London, 1898).

an infinitesimal handful of the young women, enrolled in any educational institution whatsoever. We have at last managed to turn the corner. The London Polytechnic Institutes are now gathering in a large and rapidly growing percentage of the young men and women between these ages, whether artisans or factory operatives, clerks or shop assistants.

The London "Polytechnic" has no connection with, and but little resemblance to, the institutions to which a similar name is applied in France, Switzerland, and Germany. The title springs from a mere local accident of no significance.[1] The typical London Polytechnic is an institution, under public management, for the provision of instruction, recreation, and social intercourse, for young men and women of the wage-earning and "lower-middle" classes. It is an organisation of considerable magnitude, having several thousands of members or students, the vast majority of whom are between the ages of seventeen and twenty-five. Its governing body, consisting of from ten to twenty members,

[1] In 1880-81 Quintin Hogg acquired, for the accommodation of his rapidly growing Working Lads' Institute, the lease of the premises of the Polytechnic in Regent Street—a well-known place of popular and semi-scientific entertainment, which, after amusing and instructing youthful London for a whole generation, ceased to pay its way and had to be closed. The incoming institute appropriated the old name.

appointed by various public authorities, disposes of an annual revenue of ten, twenty, and in one case, nearly thirty thousand pounds, in addition to the fees paid by the members and students. With these resources, a large amount of very varied work is carried on, each institution developing on its own lines, and accordingly differing in details from the others, but all alike being based on a common plan.

The London Polytechnic Institute is remarkable, if not unique, in its express and deliberate combination of social intercourse, recreation, and instruction. It is not a place of amusement with a few educational classes added; nor is it an educational institution with some provision for the students' recreation. The social intercourse of its members is as much its object as their recreation or their instruction; and all three purposes are entitled to equal attention from its governing body, and to an adequate share of its endowment. It is, in short, an institution of a special type, devised expressly to meet the demands of young men and women earning their livelihood by head or hand; separated in many cases from their relations and condemned to lonely lodgings; and all of them inhabiting a great city which has outgrown the simple social intercourse of neighbourliness.

Each Polytechnic Institute is an independent organisation, not subject to control by any Government department or other authority, and free, within the limits of its own trust-deed or other constitutional document, to move in whatever direction may be determined on by its governing body. But based as they all, with one exception, are, upon schemes of the Charity Commission, they are subject, to a certain extent, to ultimate control by that body. Receiving as they do (all but two), large sums from the City Parochial Charities, they necessarily defer to any suggestions made by the trustees of that fund. As their expansion and development on the educational side has been stimulated by the London County Council, and is rendered possible (in all but two cases) only by its large subsidies, that Council exercises a very real authority over their educational work. The technological classes are examined and subsidised by the City and Guilds of London Institute. The three latter bodies send representatives to the London Polytechnic Council, a joint advisory committee undertaking a general supervision of all the polytechnics.

The historian of the London Polytechnic movement, a creation of the last twenty years, will trace its origin and its strength to the

unforeseen combination of four distinct influences —a piece of life-long philanthropy by a City merchant; a Utopian novel; a so-called "predatory" Act of Parliament; and "the whisky money." Let us briefly record, for a forgetful generation, how each of these influences contributed to the result.

It is to Quintin Hogg's patient personal work among working boys, and his munificent philanthropy, that London owes the first model of a Polytechnic Institute, as well as its name. In an interesting article published in 1896,[1] Hogg described the beginning of his work among working lads—a reading lesson to two crossing-sweepers in the Adelphi arches (near the Strand). This developed successively into a ragged school (1864) in a room in Of-Alley (now York Place); a boys' home (1868) in Drury Lane; separate evening classes (1871) in Hanover Street; an evening institute (1878) in Long Acre; and, finally, from 1881 onwards, the present extensive organisation at the Regent Street Polytechnic. Here Quintin Hogg proved that, if only the opportunity for innocent recreation and useful instruction were provided without offensive patronage or irritating restric-

[1] *Polytechnic Magazine*, May 1896; *London Technical Education Gazette*, May 1896.

tions, thousands of working lads and young men would gladly avail themselves of it.

Meantime an impulse was given to public opinion from another direction. In 1882 Mr. (afterwards Sir) Walter Besant described in his novel, *All Sorts and Conditions of Men*, the lack of provision for social intercourse and healthful recreation among the million inhabitants of the East End of London; and sketched out the plan of a "Palace of Delight," which should supply this need. The idea seized on the public imagination, just then momentarily exercised by the condition of the sweated trades,[1] and led to certain funds being supplied by a private trust and various other donors, for the foundation of such a social institute as the novelist had described. Out of this root has grown, though with many changes by the way, what was originally called the "People's Palace," and is now the "East London Technical College."

But neither literary fantasy nor private philanthropy could, by themselves, have covered the whole area of London with polytechnic institutes. What gave strength and permanence to the movement, and extended it to the entire county, was the money appropriated under the

[1] See the *History of Trade Unionism*, by Sidney and Beatrice Webb, new edition (1902).

City Parochial Charities Act, 1883. The growth in wealth of the 109 minute parishes which form the old City of London, and the rapid dwindling of their residential population, had drawn attention to the desirability of some reappropriation of their extensive charitable endowments. A Royal Commission reported that property producing over £80,000 a year was being to a great extent wasted or frittered away, and recommended the appointment of a special executive commission, empowered to devise schemes for the devotion of this large property to objects of utility to the whole Metropolis. The necessary Act of Parliament was passed in 1883, largely through the exertion of Mr. (now the Right Hon.) James Bryce, M.P. Under this Act the Special Commissioner (Mr. James Anstey, Q.C.), in conjunction with two Assistant Commissioners (Mr. Edward Bond, now M.P.; and Mr. H. Cunynghame, now Assistant Under Secretary of State for the Home Department), and with the late Chief Charity Commissioner (Sir Henry Longley, K.C.B.), prepared a general scheme for the establishment, throughout London, of institutes which should combine the solid attractions which Quintin Hogg had proved to be successful at the Regent Street Polytechnic, with the social advantages which then formed

the primary object of the People's Palace. One leading feature of these institutes was to be the provision of technical instruction for the manual working-class—a provision which fell in with the general trend of public opinion at the time—but the education to be supplied was to be in no way limited either as regards the subjects to be taught or the height to which the instruction was to be carried. It was, however, not proposed that these institutions should be established entirely from the funds drawn from the City Parochial Charities. A large proportion of capital, and an endowment of annual income—the whole amounting in capital and annual endowment approximately to a million sterling—was offered to London for this purpose, conditionally upon other funds being provided in each locality by private subscription. This offer met with a liberal response. The Drapers' Company took over the People's Palace, and set aside a large income for its maintenance. The Goldsmiths' Company undertook the entire charge of founding and maintaining a polytechnic at New Cross. The Clothworkers' Company gave munificent donations (nearly £20,000) to the Northern Polytechnic at Holloway, and other City Companies helped in their own way. Largely through the energy of Mr.

Evan Spicer and the special generosity of Sir Henry and Mr. Edwin Tate, considerable sums were raised in Southwark and Battersea for starting polytechnics in those districts. In Clerkenwell and in South-West London similar schemes began to get under way. But except in the two cases in which City Companies had undertaken the entire charge, the available funds were everywhere found to be quite insufficient for the maintenance, and in some cases even for the completion, of the institutions which had been begun.

At this stage the London County Council entered the educational field, and began in 1892-93 to devote its "whisky money" [the grant from the National Exchequer made in the Local Taxation (Customs and Excise) Act of 1890] to the promotion of Technical Education. The polytechnic institutes, then in various stages of incompleteness, naturally claimed a large share in this new source of educational endowment. This has been liberally accorded to them, but only upon condition that the educational side of each institute was systematically organised upon a sound footing, made thoroughly efficient, and greatly extended. Under this influence, the polytechnics, whilst retaining their functions of promoting social

intercourse and healthful recreation, have become educational institutions of the first importance.

At the present time there are twelve polytechnic institutes and three branches actually at work, distributed as follows :—

North of the Thames

The East London Technical College, Mile End Road, E. (With its branch, the Bow and Bromley Institute.)

The Northern Polytechnic, Holloway, N.

The Regent Street Polytechnic, Regent Street, W.

The South-West London Polytechnic, Manresa Road, Chelsea, S.W.

The Sir John Cass Institute, Jewry Street, E.C.

The City Polytechnic, comprising

- The Northampton Institute, Clerkenwell, E.C.
- The Birkbeck College, Bream's Buildings, Chancery Lane, E.C.
- The City of London College, White Street, Moorfields, E.C.

South of the Thames

The Battersea Polytechnic, Battersea Park Road, S.W.

The Borough Polytechnic, Borough Road, S.E. (With its two branches, the Herold's Institute, Bermondsey, S.E., and the Norwood Institute, Knight's Hill, S.E.)

The Goldsmiths' Institute, Lewisham High Road, New Cross, S.E.

The Woolwich Polytechnic, William Street, Woolwich, S.E.

The fifteen separate institutions and branches actually at work during the session 1903-4 may be estimated to have cost nearly a million sterling in capital outlay, and to be expending this year about £200,000 upon a membership which will probably approach 40,000. The receipts from members' and students' fees, and other miscellaneous sources, will not exceed £60,000, leaving a deficit of about £140,000 to be met from other funds. Private subscriptions may amount to nearly £15,000. The contributions of the City Companies (principally the Drapers', Goldsmiths', and Skinners') will account for about £25,000 more. But at least £100,000, or about half the total outlay, is drawn from funds of a definitely public character. The Board of Education grants will probably reach £25,000. The Central Governing Body of the City Parochial Charities contributes altogether about £30,000. Finally, the London County Council supplies nearly £50,000, definitely allocated to the part of the work falling within the statutory definition of technical instruction.

On their social and recreative side, the polytechnics constitute an important advance in the systematic organisation of recreation in a great city. In every polytechnic institute the club rooms and drawing rooms for men and women,

the concerts and entertainments of various sorts, the popular lectures and excursions, form a leading feature. Well-equipped gymnasia and playing fields, billiards and other games, reading-rooms and lending libraries, as well as mutual societies of all kinds (debating, essay, Shakespeare, swimming, rambling, cycling, cricket, rowing, photography, and what not) enrol tens of thousands of members. This part of the work is less costly to the institutions than science laboratories and skilled tuition, but it absorbs in the aggregate no inconsiderable sum of the endowments. It is to this part of the expenditure that (besides the members' fees, and the private subscriptions) part of the contributions from the City Parochial Charities Fund are regarded as contributing, leaving the Board of Education and County Council grants to be devoted exclusively to education.

No city in the world has made such strides as London in the past ten years in the public organisation of recreation. It does not, it is true, maintain or subsidise municipal theatres or opera-houses, as is done in some foreign countries, and done, too, by the Secretary of State for the Colonies himself, in our own Crown Colony of Malta. But now that the large public expenditure on reading-rooms and libraries, parks

and open spaces, gymnasia and playing fields, is supplemented by the £12,000 a year spent out of the rates for a municipal band and free open-air concerts, and by the deliberate organisation of social intercourse and amusement under public management from the endowments of the polytechnics, the organisation of healthy recreation has, with the full approval of public opinion, evidently become an important branch of municipal administration. The total expenditure on these various services in London from public funds alone must now reach nearly a quarter of a million a year.

But it is rather the educational work of the polytechnics than their recreative side, that falls to be described here. As educational institutions, the London Polytechnics constitute a new and distinct type, in that their work is not confined to any one grade—still less to any one branch of knowledge or to any one sex—but ranges from the Higher Grade Day School for boys and girls of fourteen, up to high University instruction and post-graduate research. It is now possible, in several of these institutions, for a boy or girl to enter after passing the Fifth Standard at the Public Elementary School; to remain in the Polytechnic Day School up to sixteen or seventeen;

on leaving school at any age, to continue education in any branch of study, in either evening or day classes; to prepare either for manual labour, commerce, the higher ranges of technical science, or the classical curriculum of the University; to qualify for membership of the professional associations or take a London degree; and finally to specialise, in post-graduate investigation or research, in various departments of science, literature, or art. From the beginning to the end of the career of such a student, he or she may remain at one and the same institution, studying either in the daytime or in the evening, as may be most convenient, and passing from teacher to teacher, under the personal influence of one and the same principal. The visitor who goes over one of the larger and more highly developed polytechnics will find within the institution on the day of his visit all kinds and grades of educational work simultaneously going on. In one room he will see boys of fourteen learning arithmetic, or girls being taught to sew; in another wing of the same building he will come across classes of plumbers or bricklayers, compositors or tailors, receiving practical training in the processes of their respective crafts; close by will be seen the smithy or the

fitting shop, crowded with young engineering artisans; in other class-rooms he will find groups reading Dante, or studying economics; and presently he will enter a splendidly equipped physical or chemical laboratory, where he may discover (as at Battersea the other day) the professor, with a selected band of students working out a Royal Society grant for original research, or (as at the South-West London Polytechnic) graduates of more than one University preparing their theses for the doctor's degree. The typical London Polytechnic does not belong exclusively to elementary, to secondary, or to university education; it is not distinctly a day college, nor yet an evening institute; it is particularly affected neither to science nor to the arts, neither to technology nor to literature. Its remarkable growth and success is due to the fact that it combines and includes them all.

It has sometimes been suggested that the London Polytechnics, in undertaking educational work of wide range and high quality, have departed from their legitimate sphere. This is not the case. The original "scheme for the management of an Industrial Institute," by which the polytechnics are practically all governed, was wisely drawn in very general terms. The "general knowledge" of the students

is placed alongside their "industrial skill," among the declared objects of the institution, and to both of these are added the all-embracing words of "health and well-being." The governors are to supply "instruction in the general rules and principles of the arts and sciences applicable to any handicraft, trade, or business," but co-ordinate with this is the direction to give "instruction in such other branches and subjects of art, science, language, literature, and general knowledge as may be approved by the governing body." The "institute shall be conducted in such a manner as to secure the benefits thereof to the poorer classes," but it is in no way restricted to them, and there is no limit or restriction on the quality of the instruction to be provided. Provision is, indeed, expressly made in the scheme for the holding of "advanced classes for higher instruction in any special branch of the subject of art, or science, or commercial, or general knowledge." The idea that the polytechnics are departing from the scheme in undertaking anything but trade classes, or providing any but elementary education, is therefore entirely without foundation. It is probable, indeed, that the extreme many-sidedness which is now such a distinctive feature of these institutions was not fully foreseen by any

one of their founders. But it is just because they have been able to expand in all directions in response to the public demand that they have achieved a larger measure of success than any other kind of educational institution, without compulsory powers, has ever attained in London.

The educational work of the typical polytechnic thus comprises many different departments. There is, first of all, the day school. Eight of the polytechnics now possess day schools, two of them being "mixed schools for boys and girls," three having separate departments for the sexes, and three being at present confined to boys. One (at the Regent Street Polytechnic) is a good secondary school, not differing essentially from the modern "second grade" type, with scientific and "commercial" leanings; one is an endowed elementary school of peculiar type; the others (at the East London Technical College, and at the Battersea, Borough, Northern, South-West London, and Woolwich Polytechnics) are rather of the nature of technical continuation schools, aiming at giving to boys and girls coming from the public elementary schools two or three years' educational training, specially adapted to workshop or office life. The eight polytechnic day schools have at present about

2000 pupils, the great majority of whom are between twelve and sixteen years of age.

Attached to various polytechnics there are also eight other day schools of a special type. The Domestic Economy School supplies to girls of fourteen or upwards, on their leaving the public elementary school, six or twelve months' continuous training in the various branches of domestic economy. The whole time of the pupil at the Domestic Economy School is spent in the study and practice of cookery, dressmaking, plain needlework, laundry work, and housewifery, with some elementary lessons in the chemistry of food, and the physiology of hygiene. These schools are restricted to small numbers, either fifteen, thirty, forty-five, or at most sixty, in order that the work may be strictly practical, and shared among all the pupils. The girls naturally do all the cooking, sewing, and cleaning work of the schools, and receive their meals and the articles of clothing they produce. One school in a specially poor neighbourhood (at the Borough Polytechnic) is open only in the afternoon, so as to allow the morning to be spent in home duties. About 500 girls pass through these schools every year.

But the best known feature of the London Polytechnic is its array of trade classes. Prob-

ably 5000 workmen, including apprentices and improvers, are to be found in these classes during the present session at the polytechnics alone, in addition to the large number of workmen in the classes for general education. Here, in the well-equipped workshops, under competent practical instructors, are taught not only the scientific principles but also the practical application of nearly a hundred distinct handicrafts, from bricklaying to bookbinding, from plumbing to photography, from enamelling to engineering, from upholstery to telegraphy. In the splendidly fitted carpenter's shop there will be intelligent apprentices or young craftsmen studying the mysteries of staircasing or handrailing; in the mason's workshop you will see complicated stone arches in course of construction, or find really artistic stone-carving being undertaken. The smithy and the forge undertake all the minor engineering work of the institution, whilst the electrical workshop constructs both the dynamo and the switchboard which form part of the electric light installation, and keep the whole place supplied with electric bells. All this shows, however, only the practical side of the work. No technical instruction gains the confidence of the workman unless it actually makes things. But it would be very poor technical

instruction if it stopped at this point. The whole aim of the polytechnic trade classes is to lead the workman on to the scientific principles which underlie his practice, without an understanding of which he can never become more than a dexterous follower of routine. Here, for instance, is a syllabus more fully expressed than is usual, of the course of instruction provided at the Northampton Institute for the highly skilled trade of scientific instrument makers.

In this course instruction will be given in Heat, Optics, and Electricity, with a view to the design and construction of various electrical and other scientific instruments. Lectures will be given in the above subjects, combined with laboratory work in illustration of the lectures, and on one evening per week instruction will be given in the Instrument Making Workshop, under the superintendence of a trained mechanic, in the actual design and construction of Instruments, which will be selected with the object of illustrating as many as possible of the fundamental scientific principles of instrument design.

Syllabus of Section A.

Length, mass, time, velocity, and acceleration, and their measurement, with reference to measuring machines, balances, chronographs, and various other measuring instruments. The simple laws of heat, and their application to thermometers, calorimeters, and compensating mechanisms. The elementary principles of reflection and refraction of light, illustrating the action of mirrors,

prisms, and lenses, telescopes, microscopes, spectroscopes, photometers, etc. The laws of electric currents, with their application to measuring instruments, such as galvanometers, ammeters, voltmeters, wattmeters, ohmmeters, supply meters, resistance coils and boxes, and condensers. The construction of switches, switchboards, and resistance frames, for various purposes.

In the *workshop*, the students will be divided into groups of two or three, and to each group will be assigned the design and construction of some form of measuring instrument, under the supervision of the instructor and mechanic. There will be special facilities for practical optical work.

Syllabus of Section B.

More detailed instruction in the design, construction, calibration, etc., of the instruments mentioned in the syllabus of Section A, and of more complicated instruments, cathetometers, theodolites, levels, sextants, telemeters, and other surveying instruments; dispersion, achromatic and aplanatic combinations of lenses, interference and diffraction, with application to direct vision spectroscopes, etc. The measurement of refractive indices, and the actual calculation of lens combinations will be given. In electricity: The laws of electromagnetism and electrostatics, as applied to measuring instruments, and the consideration of more complicated and accurate apparatus, with the methods for its adjustment.

In the *workshop*, the students will be divided into groups of two or specially selected with a view of illustrating the subject as far as possible, and they will adjust and standardise these instruments in the

laboratory, by actual commercial methods, against the more approved forms of standard instruments.

Along with this may be read the syllabus for the classes in carpentry at the same institute :—

CARPENTERS' SHOP

This shop is equipped with a band saw having a fence for straight sawing, two wood-turning lathes, a moulding spindle, all electrically driven ; besides a complete kit of hand tools for all classes of carpenters', joiners', and pattern-makers' work.

The students will be divided into groups, according to their ability. The general work of the classes will include :—

Section A.—The tuition needed by apprentices and others who have commenced work in the Carpentry and Joinery, Cabinet Making, Coachbuilding, and other wood-working trades. The workshop practice will be supplemented by oral tuition on the nature and properties of timber, the use of geometrical methods in setting out work, and such other subjects as may be deemed necessary. The soft and hard woods commonly used in carpentry and joinery ; seasoning and conversion of timber ; names, uses, and management of wood-working tools ; sharpening and setting various tools ; the use of glue, nails, screws, wedges, keys, tongues, pins, dowels, tree nails, screw-bolts, and other fastenings ; marking out and cutting up stuff ; face and edge planing ; gauging and striking joints ; striking simple mouldings ; operations of carpentry and joinery, technical terms ; grooving, plough-

ing, rebating, mortising, and tongueing; mitres; shooting; dovetailing, clamping, housing, blocking, and bracketing; match boarding; furring and fillets; heading joints; veneers; inlaying and parquetry; plugs and battens; scribing; bevelling, and splaying; wedging, throating, raking, and framing; paring straight and curved surfaces; oblique and tusk tenons; construction of carpentry joints; lapping, fishing, scarfing, tabling, halving, notching, cogging; joggles, bridles, and straps; description and methods of fixing various kinds of locks, hinges, and window fasteners, floor hinges, door springs; door and gate swing and slide arrangements.

Construction of doors, tables, cupboards, desks, and plain furniture.

Descriptions of wood-working machinery; vertical, circular, cross-cut and band saws; planing, moulding, mortising, tenoning, and boring machines; universal joiner and spindle machines.

Section B.—Intended to suit the requirements of journeymen and adult artisans who have had a fair degree of workshop experience. The practical work taken will be correlated to Section 13 of the Workshop Drawing Class for wood workers; the working drawings prepared in that class being intended for actual construction in the shop. The syllabus for workshop drawing may be taken as a sufficient indication of the course in contemplation.

Section C.—More difficult and highly finished work than that taken in the preceding section; it will in general correspond with the work of the advanced drawing for wood-workers.

All necessary tools and wood will be provided by

the Institute; but the students will be responsible for any breakages.

This kind of evening instruction for the intelligent workman is unique in the world. No other city has anything to equal it.

But we have by no means exhausted the educational work of the typical Polytechnic. At each of them there is a bewildering array of classes in every conceivable subject ranging from the elementary French, shorthand and book-keeping of the ambitious office boy, or the rudiments of geometry and electricity picked up by the artisan, to the highest "verbatim reporting practice," commercial correspondence in German and Spanish, and the study of law or political economy. In these classes the industrious apprentice or enterprising mechanic prepares himself to become a foreman or clerk of the works; here the diligent errand boy and junior clerk begins his progress towards a partnership or setting up for himself; here the clever girl from the Board School studies for a Post Office clerkship, or learns, in dressmaking and millinery classes, how to make the best of a small income; here the weary but indefatigable shop assistant struggles to pick up colloquial French—in short, it is in the evening classes of the polytechnics and the smaller

educational institutes that fill up the interstices between them,[1]—taken in conjunction with the evening continuation classes of the School Board—that the vast majority of the 100,000 young men and women who each year attain their twenty-first birthday in London get their main chance of anything beyond common schooling.

It would, however, be a mistake to regard the polytechnics as exclusively, or even mainly, devoted to evening classes. In most of them, the buildings are now coming to be almost as much thronged in the morning and afternoon as in the evening. Nor is this due merely to the day schools for boys and girls and the domestic economy schools already described. There are in London thousands of people who earn their daily bread by working in the

[1] The limits of this article forbid more than a bare mention of these smaller institutes, which are doing most useful work. Among the most interesting are the Working Men's College (established 1854) and Toynbee Hall, both of which aim primarily at general culture; the Morley Memorial College, the Craft School, the Paddington Technical Institute, the Hackney Technical Institute, the Westminster Technical Institute, and the Wandsworth Technical Institute—all of which are virtually minor polytechnics; the St. Bride's Institute, the Bolt Court Lithographic and Photo-Process School, the new School of Building at Brixton, and the Shoreditch Technical Institute, which are rather more of the nature of "monotechnical" institutes, specially devoted to particular industries; and finally, the Central School of Arts and Crafts, the Camberwell School of Arts and Crafts, the Camden School of Art, the Clapham School of Art, the Hammersmith School of Art, and half a dozen others—the whole being either wholly or partially maintained by the London County Council.

evening, or even through the night. Other thousands, such as young women occupied with home duties, visiting governesses, teachers in evening classes, and many more, can more conveniently spare part of the day than the evening hours. Finally, London contains a large student class—young men and women, mostly living at home, and devoting themselves for a few years to artistic or intellectual study. Accordingly one polytechnic after another has found itself pushed into providing day instruction of various kinds, by the demand of students for whom evening classes are inaccessible or unnecessary. Thus the Battersea Polytechnic has regular day courses in mathematics and chemistry, engineering and electricity, building and machine construction, wood-work and metal-work. The East London Technical College and the Regent Street Polytechnic have each a regular engineering department, involving attendance for thirty hours per week, at a course of instruction extending over three years, which turns out fully equipped engineers and electricians. The Regent Street Polytechnic has an Architectural School, providing a complete curriculum for young architects, sons of builders intending to enter their fathers' business, and others able to devote two or

three years to daily study. The Goldsmiths' Institute, besides extensive day departments in art and music, has a "Commercial and Civil Service" department every afternoon, largely attended by young women. The Birkbeck College has now a rapidly growing day department in natural science, including systematic courses in mathematics, physics, chemistry, biology, and physiology, under well-qualified teachers, and using the splendid laboratories of the institution. There are also day classes in Latin, Greek, French, and other subjects of general education, up to the standard of the B.A. degree. It is, however, at the South-West London Polytechnic that the day classes have been most fully organised. Besides a day school for boys and girls, a Domestic Economy School for girls, developing at one end into a Training School for domestic servants, and a flourishing Art School, there is a fully developed Technical Day College for men, and another for women. The former has been modelled upon the well-known Finsbury Technical College of the City and Guilds of London Institute, and provides, for youths between fifteen and eighteen, a two years' course of training for (1) mechanical engineering, (2) electrical engineering, (3) chemical industry, (4)

the building trades, or (5) applied art. There is an entrance examination for all matriculated students, who pay an inclusive fee equal to that charged by many a provincial University College, namely, £15 per session. The day college for women is for students of fifteen years of age and upwards, and corresponds, as far as may be, with the men's college. The courses provide a good general education in science, art, literature, domestic economy, and physical training, and special training for secretarial work, the inclusive fee for matriculated students being, as for the men, £15 per session.

There is an obvious economy in utilising for day as well as for evening work the expensive buildings and equipment provided, at a cost of nearly a million sterling, for these Polytechnic institutions. Taken as a whole, indeed, the day work involves no pecuniary burden on their annual funds, as the extra expense for staff and maintenance is fully covered by the fees charged. There are, moreover, many advantages to an evening institution in having a day department. The standing charges are spread over a larger volume of work. The combination of day and evening classes permits the payment of higher salaries to be made to the staff, and enables the services to be secured of more distinguished teachers than

would be attracted by evening work alone. And there is a positive educational advantage in the union of an engineering or an architectural school, conducted in the daytime, with the ordinary trade classes, which are necessarily held in the evening. It is a great gain to the young architect or engineer to be able to pass, whenever he pleases, into a workshop class where, side by side with the artisan, he will learn the ordinary practical work of a carpenter or a plumber, a stonemason or a plasterer, a smith or a fitter. Hence the engineering and architectural schools of the London Polytechnics are steadily increasing. More than one provincial city, proud of its "University College," counts fewer systematic day students than a single London Polytechnic. Even the new provincial universities, with all their dignity of charters and chancellors, diplomas and degrees, often do less work of university grade than a London Polytechnic.

Turning from science and technology to the wide field of art, we have to note that the School of Art is an important department of every Polytechnic institute. Its work ranges from the elementary drawing, which every technical student is urged to learn, up to the highest developments of "fine art" and design. Largely attended "life classes," wood-carving, modelling,

art needlework, and embroidery attract, in the aggregate, more than three thousand students, day and evening. The Polytechnics are providing, in fact, more than a third of the art teaching of London. In the National Art Competitions, several of them usually stand at the very top of the list of successful art schools. The works of their students now appear in every exhibition of the Royal Academy—still more in every Arts and Crafts Exhibition.

Yet another educational function is served by the Polytechnics in the education of teachers. The number of teachers, elementary and secondary, employed in London, does not fall far short of 20,000 and some 1500 new appointments are made each year. An extensive recruiting ground for educational institutions in London exists therefore among teachers alone. A large number of them are now to be found in the ordinary day or evening classes of the Polytechnics, improving their French, increasing their science certificates and acquiring the "full D" (the elementary teacher's drawing qualification). Much of this "certificate hunting" is of very doubtful value. A beginning has, however, been made of proper normal classes for teachers, having in view a real educational training in method rather than the mere acquisition of certificates.

Mention must first be made of the Domestic Economy Training School, carried on by the Battersea Polytechnic. This is a fully equipped normal school, recognised by the Board of Education for the training of women teachers in cookery, needlework, and dressmaking, millinery, laundry work, and housewifery. The full course lasts two years and a quarter, for which an inclusive fee is charged of £55, covering, besides seven terms' tuition, meals during school hours, and the articles of clothing made up. Much lower fees admit to separate parts of the course, for instruction in particular subjects. The Technical Education Board, at whose instance the school was established nine years ago, nominates a certain number of free scholars between the ages of eighteen and thirty.

Here, too, must be mentioned the highly successful Training School for Women Gymnastic Instructors carried on by the South-Western Polytechnic. The demand from the girls' schools for these admirably trained teachers can hardly be fully supplied, and relatively large salaries are earned.

Several of the Polytechnics, notably Battersea and the South-West London, have on Saturday mornings, from time to time, well-attended normal classes for teachers. Thus there have been courses

on "The Teaching of Practical Mechanics" and "The Teaching of Practical Physics," as well as regular instruction for teachers in manual training, drawing, etc.; whilst the Borough Polytechnic, besides very successful woodwork classes, has had a special Saturday morning course for domestic economy teachers, on "The Chemistry of Cooking." For these normal classes in science teaching the spacious laboratories of the Polytechnics are admirably suited.

But the science laboratories of the Polytechnics require a paragraph to themselves. The generous donations of the Drapers' and Goldsmiths' Companies, and the equipment grants of the London County Council have endowed London with a series of chemical, physical, and mechanical laboratories, which go far beyond the requirements of merely elementary students, and which will, indeed, bear comparison with any others in this country. Every attempt is made to render even the elementary instruction in chemistry, physics, and mechanics thoroughly practical and scientific. The great majority of the students naturally do not pass beyond this stage. But out of the thousands of young men and women who throng the Polytechnics a small proportion show taste and aptitude for scientific work of a higher order, and devote themselves

to advanced studies. Accordingly nearly every Polytechnic has its little knot of enthusiastic chemists or electricians, who spend every hour that they can spare in the laboratory, and who, working under the personal guidance of the able scientists at the head of these departments, are occasionally even found carrying on original investigations. Sometimes this is systematised into what, in a German University, would be called a "Seminar." Thus, at the South-West London Polytechnic, there was announced in a recent session the following classes for "training in research," under the principal (Professor Tomlinson, F.R.S.):—

RESEARCH COURSES AT THE SOUTH-WEST LONDON POLYTECHNIC

(*a*) *Course for day students*

This research training will form part of the curriculum of the second year day electrical engineering students of the institute, but will be open to a limited number of other students provided they can show a fair knowledge of the elementary principles of physics and mathematics. The method of conducting any research will be as follows:—

1. The principal will select some subject for investigation suitable for electrical engineering students.
2. He will fully explain to the class the various

reasons which have induced him to make the selection.

3. He will give a brief history of what has been previously done round and about the subject, and full reference thereto.

4. He will propound a mode or modes of attacking the research and invite criticisms from the class.

5. When the best mode of attack has been decided on, the class will be expected not only to take part in the experiments but to help in preparing the required apparatus.

6. Should the results obtained be of sufficient importance, they will be offered in the form of a paper to such societies as the Royal Society, the Physical Society, or the Society of Electrical Engineers.

7. From time to time during the investigations the principal will give demonstrations or lectures on those particular branches of magnetism and electricity which bear directly on the investigation, and will illustrate them by the results obtained.

The subject selected for the first research is "The Effect of Repeated Heating on the Magnetic Permeability and Electrical Conductivity of Iron and Steel."

The investigations will be accompanied among others by the following demonstrations and lectures :—

(1) The best methods of annealing iron and steel and the faults incidental thereto.

(2) The determination of magnetic permeability both by the ballistic and magnetometric methods.

(3) The determination of the electrical conductivity of magnetic metals.

(4) The critical temperature of iron and its alloys.

These demonstrations and lectures will be complete in themselves, and may be attended by those who are not capable of taking any practical part in the research.

(b) Saturday morning course for teachers

On Saturday, October 10, Principal Tomlinson, F.R.S., will commence a course of demonstrations in research training. The course will be essentially a practical one. An electrical subject for research has already been selected, and in this each member of the class will participate, not merely by performing the experiments, but by assisting to make up the necessary apparatus. Should the results of the investigations prove of sufficient importance, they will be offered for publication to one of the societies interested in the subject. In any case, such a course should prove valuable to the more intelligent teachers, both in elementary and secondary schools, and accordingly ten such teachers will be admitted free of charge, provided they show the necessary qualifications. The class will hold about thirty meetings on Saturdays from 10 A.M. to 1 P.M., and an opportunity will be given to those who desire it of continuing their experiments from 2 P.M. to 5 P.M.

Work of this sort cannot be denied to be of distinctly University rank, and the Polytechnics are becoming increasingly the popular side of the reorganised University of London.

Among the 30,000 members and students there are many who aspire to a University degree. A considerable number present themselves every half-year for the London matriculation examination, and many pass it with no more special preparation than is to be obtained from the ordinary classes at the Polytechnics. But a demand has sprung up for courses for instruction definitely adapted to the requirements of the B.A., B.Sc., and LL.B. degrees. Nearly every London Polytechnic now finds itself compelled to make express provision for students who are working for University degrees. This development of an "evening class university" is one of the most remarkable educational advances made in London during the past decade. In the reconstitution of London University, the Polytechnics were naturally accorded full recognition and an honoured place. They could not, as heterogeneous institutions, be admitted as "schools" of the University. But by an ingenious compromise, which may be commended to University reorganisers elsewhere, they were, without any sacrifice of University quality, or lowering of University dignity, placed in a virtually equivalent position. The new University was based, in effect, on the professoriate, not upon institu-

tions. Any teacher, possessing sufficiently high qualifications, giving in a duly equipped public educational institution courses of instruction judged by the Senate to be of University type, to adequately prepared students, is "recognised" by the Senate as a teacher of the University, whether he teaches in a school of the University or not. As a teacher of the University, he is a member of the faculties and boards of studies; he helps to frame the curriculum and to control the examinations; he takes part in the election of the Senate; and, most important of all, duly matriculated students attending his lectures are "internal" students of the University, entitled to proceed, under proper regulations, to the "internal" degree. Under this constitution more than fifty of the principal teachers of the Polytechnics have been included in the University, placed on faculties and boards of studies, and (in one case) even elected to the Senate itself. At six of the Polytechnics complete courses of instruction for the B.A. or B.Sc. degree are now provided in Arts, Science, or Engineering, and, at the present time (November 1903), it is estimated that more than 500 duly matriculated undergraduates are to be found working steadily through the various degree courses under the University teachers in these popular institutions.

This remarkable development has been rendered possible by the revolutionary provision which the University commissioners inserted in the new constitution. All the privileges of the University, including that of ranking as internal students, are thrown open to students who can give only their evenings to study, and it is expressly provided that no regulation shall be made rendering it impossible for such students to proceed to a degree. Thus, in the six Polytechnics at which complete degree courses are already provided, London has not only a decentralised but also an "evening class" university of the most popular kind. This side of the Polytechnic work is plainly destined to larger growth.

This does not, of course, mean that these institutions can ever take the place of the University Colleges; any more than their special experiment in Technical Day Schools can supply the need for Secondary Education of the ordinary type. The London Polytechnic is, in short, a pure addition to the educational system, which neither competes with previously existing institutions, nor supersedes them. There is no reason to believe that the remarkable upgrowth of the Polytechnics has in any way interfered with the older University Colleges.

There are, among all the 30,000 members and students of these new institutions, probably not a dozen who would have been found joining University or King's College had the Polytechnics never come into existence. Their Technical Day Schools have in no way denuded the endowed Secondary Schools. Each new Polytechnic seems in fact to create its own public, and though six out of the twelve main institutions, and their three branches, have been opened since 1893, the numbers attending the older ones in nearly all cases go on increasing. It is only natural that educational institutions of other types should look with longing eyes on the tens of thousands of new students whom they have failed to attract. But there is every indication that the 30,000 members and students thus brought under educational influence are a net gain; they represent the arrival of a poorer class of students than the University Colleges have as yet catered for.

Similarly, the London Polytechnics leave untouched the place of the "monotechnic" institute, devoting itself to specialised instruction and research in one particular department. The School of Lithography and Photo-Process Work, which the London County Council

carries on at Bolt Court, Fleet Street, finds no competitor in the Polytechnics; its Central School of Arts and Crafts at Regent Street neither diminishes the attendance at the other Schools of Art, nor itself suffers from them. The Central Technical College of the City and Guilds Institute does not find its full complement of students diminished by the opening of any number of Polytechnics, any more than the London School of Economics suffers by the establishment of economic classes all over London. The Polytechnics, by spreading an elementary knowledge among thousands, positively feed the higher and more specialised institutions, which have until lately often suffered from the lack of sufficient preparation for their necessarily advanced curriculum.

Nor need we attempt to determine how far the advantages undoubtedly gained in the London Polytechnics by combining so many sorts and grades of work are accompanied by corresponding drawbacks; nor whether they can ever outweigh the advantages gained by other institutions rigidly confining themselves to one sphere. In London, at any rate, there is clearly room for both kinds of institution. The Polytechnics have amply justified their action by their remarkable success, not only

in attracting and retaining tens of thousands of students, but also by their solid achievements in educating these students, whatever their grade, and in the high standard now attained by their more advanced work. But this is no reason why institutions which admit only one sex, or which deal only with a limited range of subjects, or which confine themselves to one particular grade of educational work in the subjects which they take up, should not continue unimpaired their own career of usefulness, enjoying all the advantages given by this concentration. The London Polytechnics cater for *des nouvelles couches sociales* in the educational world. Their rapid success in so many different directions suggests that, though their work has limits, these are not yet in sight.

CHAPTER V

THE ORGANISATION OF THE LIBRARY SERVICE [1]

To the twentieth-century person the collective provision of books is as much a matter of course as the collective provision of roads or—to take a closer analogy—of water. The public library service is as much a necessity of the life of a civilised city as a public water supply. There are, even in the twentieth century, cities without either the one or the other. I know one city of 40,000 inhabitants in which each household gets its own water from its own individual well, and, quite naturally also, obtains its own books from its own individual bookseller. But in London, at any rate, we do not need to argue this point. No one seriously proposes to shut up the British Museum and sell off its millions of books to the highest bidder. The library service of London is now recognised to be—in

[1] In this chapter is reproduced the substance of a lecture given at the meeting of the Library Association in March 1902.

one form or another and to one degree or another—as indispensable a branch of our public organisation as the police or the parks.

Thus, by the phrase "library service" I do not denote simply the staff of officials who handle the books, but the function itself—the provision of books accessible to students and readers of different classes without their having individually to purchase them. How is this function fulfilled in the London of the twentieth century?

The library service of London, like most things in this amazing city, is more extensive and complicated than is usually supposed. We have, to begin with, the magnificent national library at the British Museum; the less well known but very valuable collection at the Patent Office, which contains 100,000 volumes, including some things not to be found at Bloomsbury; and the still less frequented library at South Kensington Museum with 200,000 volumes, specially rich in works on art and education. Then there are the splendid scientific libraries of the Natural History Museum at South Kensington and the Geological Museum in Jermyn Street, which are open to any serious student of their subjects. Along with these, making altogether more than a dozen collections

maintained out of the national revenues, should perhaps be named the large and valuable libraries at the Admiralty, India Office, Foreign Office, Colonial Office, Labour Department, Board of Agriculture, War Office, and Home Office. These are not nominally open to the public, but access to the printed books is, I believe, never refused to any *bonâ-fide* student who makes proper application. Then we come to the very large number of quasi-public libraries such as those of the various learned societies, the Royal Colonial Institute, the Imperial Institute, the various Inns of Court, the Incorporated Law Society, the other professional associations and many others. Here, too, though not nominally open to the public, every facility is usually accorded to the inquirer needing access to any special volume, or information on any particular subject. We have yet to name such extensive collections as the Lambeth Palace Library, Sion College Library, Westminster Abbey Library, the Library at the Church House, Dr. Williams's Library, and those connected with the various nonconformist, missionary, and Bible societies. There are such collections as the library of the London Institution with 100,000 volumes, the Herald's College Library, the Library of Dulwich College, and the British Library of Political

Science at the London School of Economics in Clare Market, which though only eight years old, already approaches its hundred thousand items. There are the score or more of libraries—in some cases very large and valuable—of the new University of London and its several faculties and colleges. There are some scores of other collections, occasionally of special value, scattered among the smaller educational institutions. There are dozens of specialist libraries belonging to particular societies or trustees. Again, we have the magnificent Guildhall Library and half a dozen other City libraries of public character. Finally, and perhaps many would have expected me to have mentioned them first of all, there are the fifty odd public libraries maintained out of the rates by twenty-one out of twenty-eight Metropolitan Borough Councils, having in themselves alone nearly a million volumes. I do not think that I exaggerate if I say that, of libraries either legally open to the public, or easily accessible without charge to any *bonâ-fide* student, there are in the Administrative Council of London at the present time more than 200 distinct collections of books, comprising in all, over and above the innumerable treasures of the British Museum, between three and four millions of volumes. That is to say, there exist in the

London libraries of to-day considerably more books outside the British Museum than that vast storehouse itself possesses.

Leaving the British Museum out of the question, how is this vast library service organised? The answer is that it is not organised at all. Each of the 200 libraries hugs its own stores, has its own more or less imperfect catalogue on its own particular system, knows nothing of what exists outside its own shelves, accretes its own accessions in its own individual way, decides on its own purchases without regard for what other libraries may be acquiring, and—so far as I can learn—makes not the slightest pretence at regarding its own particular collection as merely one item in London's vast library service, which cannot, without organisation, attain its maximum efficiency. The library service of a great city can and surely ought to be something more than a couple of hundred almost accidental heaps of miscellaneous volumes, each maintained and managed in jealous isolation from the rest, and limited in its public utility by the lack of communication between the heaps—even, usually, by a dense ignorance in those in charge of each heap as to what may be hidden in every other heap. Nowhere is there more need for co-ordination in every

branch of life than in this bewildering five-million city. Never in the history of the world has there been so great a treasure of books requiring to be intelligently guarded and wisely applied.

I venture to hope that the Library Association will in time be able to do something to remove this reproach. The couple of hundred of heaps of books in London are in charge of nearly as many librarians, mostly members of this Association, and men whom I credit with every desire to make their collections as useful as possible. They have nearly all of them to struggle with inadequate means, and desire therefore to make their money for purchases, for cataloguing, and for the publication of special bibliographies go as far as possible. Would it not be within their power to set on foot a combined catalogue of all these London libraries, taking the printed British Museum catalogue as the basis, and thus enabling themselves, and the public, to take stock of our total supply of books, and to know where to find any volume that does not happen to be on the shelves of any particular library. I am quite aware of the impossibility of printing over again a catalogue even larger than that which tasked the resources of the British Museum. But any genuine librarian

feels delight in possessing unique treasures, and can take some trouble to discover which they are. It does not seem to me an impossible task for each library to undertake to mark, in its own copy of the British Museum catalogue and in its own time, those volumes which it happens to possess. This done, there would come the intensely delightful and comparatively easy task of making a list of the works which the British Museum itself had not catalogued. The latter lists would, after being duly checked at Bloomsbury, form the basis of a combined catalogue of "books not in the British Museum" which certainly ought to be printed forthwith, with exact particulars of where each book can be found. It would be a more onerous task to collate the main catalogues, but not, I venture to believe, one transcending the powers of library co-operation. Some central organisation — it might be the British Museum or it might be the London County Council, it might even better be the Library Association itself—could surely find means to go through the hundred or more marked catalogues page by page, transferring the marks to one gigantic interleaved copy, which should then be open to be consulted by any librarian or student. We could then use the telephone—will it be believed that very few

of our libraries are yet on the telephone?—to ask and be informed at which of the 200 libraries in London any particular book was to be found. At present if a student seeks a book which the nearest library does not possess, the librarian can do nothing but refer him to the British Museum. The book he wants to see may not be in the British Museum. It may be in the very next library. It may be accessible at half a dozen of the 200 heaps, much nearer than the British Museum, for which, moreover, the applicant may not have a reader's ticket. But from sheer lack of knowledge of the contents of our 200 heaps the applicant is sent empty away. The combined catalogue at a central office, and the use of the telephone, would remedy this. It would, moreover, be possible to publish from time to time from careful study of the combined catalogue, intelligent lists of additional books needed by London as a whole. Librarians could then avoid purchasing books of reference already adequately provided elsewhere. I venture to believe that such a combined survey of our 200 heaps would double their aggregate utility, and make the money available for new purchases go very much farther than it does at present. So vast a possible improvement in the efficiency of our library service surely deserves consideration.

The difficulty of combining in any one scheme a couple of hundred different libraries of very varying constitutions, objects, sizes, and, may I add, degrees of public spirit and intelligence is, of course, very great. Let us take a more manageable problem, of more urgent pecuniary importance. The fifty odd central and branch libraries of the twenty-one Metropolitan Borough Councils have all exactly the same constitutions, the same objects, nearly the same conditions to work under, and the same problem to solve of how to make a limited rate accomplish an unlimited task. At present, so far as I can learn, there is not everywhere complete co-ordination even between the several libraries belonging to the same Borough Council. This particular lack of unity and failure to co-operate for a common end, is, however, perhaps due only to the recent amalgamations and may be expected to pass away. But I believe the librarians and library committees of the twenty-one boroughs have absolutely no common action among themselves. Owning, among them, about three-quarters of a million volumes in the lending library and nearly 150,000 in the reference department, they are in complete ignorance of what works they collectively possess. Each buys separately its own books, without the least regard for what others

are purchasing. It is quite possible, and indeed probable, that twenty-one copies of one particular book of reference are being simultaneously ordered this week, whilst a score of other works are reluctantly foregone by all the twenty-one librarians from lack of funds. The result is that the reference departments of the public libraries in the twenty-one boroughs now contain, with fortuitous exceptions and additions, a few of the more obvious books—often the identical books —in every subject. The aggregate collection of such books in London remains therefore incredibly mean and poor, scarcely, indeed, in some departments, much larger than that of a single one of the larger libraries. The money so spent would go ten times as far if it were arranged that each reference library should—beyond the little stock of frequently required dictionaries and directories—specialise in certain directions and rely on the other reference libraries for everything outside those directions. But this involves a combined printed catalogue of the 150,000 reference books—surely not an impossible undertaking for the staff of fifty libraries to undertake jointly and twenty-one library committees to pay for. At present, if a student comes to one of the fifty odd municipal libraries to consult a work of reference which it

does not happen to possess, the librarian cannot tell him in what library it may be found, though it may, as a matter of fact, be lying unused on the reference shelves of the next library, only half a mile away.

To sum up. The public library service is an integral part of the modern educational system. As such, it may justly ask for some assistance from public educational funds, at any rate for its reference department. But no educational authority could profitably make a grant in the present state of library chaos. Any such grant must necessarily be made dependent on the systematic and united organisation of the service as a whole.

Let us now turn to the lending department. Here each library must naturally have its own stock of books according to the popular demand, irrespective of what other libraries may possess. Yet even here much could be done by co-operation. At present, each borough, I believe, issues borrowers' tickets only to the ratepayers or to the inhabitants or persons employed within its own area, and refuses to lend books to persons possessing borrowers' tickets from any other borough. Yet by mutually recognising each other's tickets, they would none of them lose anything, and they would in certain

ways greatly promote the public convenience. A reader finding that the book he wanted was "out" at his own library, could apply for it elsewhere. In many cases, too, the public library of one borough is much nearer to one's home than the public library of one's own borough. The hours during which libraries are open already differ and might possibly with convenience to the staff be made to differ more widely, if at the hours at which one was closed the public convenience were met by the next library being kept open. It should, moreover, surely be possible for the twenty-one Borough Councils to adopt uniform rules as to the lending of books, uniformity for instance, in age limit, guarantors, charges for tickets, fines, period allowed for reading. We need not stay to discuss now whether some of these rules might not advantageously be simply abolished. Finally, there is the subject of printing lists of accessions, special bibliographies, etc. Here there must certainly be room for some saving of expense by joint action, and an enormously extended range of service. If each librarian would undertake one task of this sort each year—say a select bibliography of one particular subject of current interest—getting enough copies printed to supply all the public

libraries of London—we should all get the benefit of each one's knowledge and service. As it is, some of the most useful productions of this kind reach only a tiny fraction of the London reading public.

It is a further defect of the library service in London, that it is practically without contact with any part whatsoever of the rest of the educational organisation. No arrangements are made between the public library and the neighbouring elementary or secondary schools, either for special facilities of admission for the scholars, or for special collections of books for their use. I have heard of no scheme by which the public library (by means, for instance, of circulating book-boxes) ever supplements the school libraries of its neighbourhood, still less the scanty libraries of the working lads' institutes, settlements, girls' clubs, or working-men's clubs. We seldom find any effective working together even of the public library and the University extension lectures. There is practically no touch between them and the Polytechnics, which are more and more becoming the local popular universities. This isolation will have to disappear before the library service of London can be said to be organised. The systematic co-operation of the public library with all the schools and colleges of its district

ought certainly to be made a prior condition to any grant from educational funds.

No less important to the efficiency of the library service of London, and no less urgently necessary is the raising of the status of the librarian's profession. We must all deplore the miserable salaries allowed at present both for chief librarians and for assistants; and the poor prospects of advancement which discourage able and educated young men and women from entering the service. A natural concomitant of this fact is the jobbery which often prevails in filling vacancies in the library staff. The average Borough Councillor sees no reason why any one should not do for a librarian's place. It is difficult to struggle out of this vicious circle. But I am convinced that the proper course for the Library Association to pursue is to insist pertinaciously on technical education for librarians; to maintain a high standard in its examinations; and urge, in season and out of season, on all its members, on Borough Councillors and on the public generally, that no person ought to be taken on in a library, even as a boy messenger, who has not attained a reasonable standard of general education. The best way to secure this end, and to stave off the appointment of the councillor's friend's

incompetent nephew, is to require all candidates to have passed some school examination of recognised public character. The requirement from every candidate for a sanitary inspectorship of a certificate of examination has had, in London, an almost magical effect in putting an end to the old jobbery of these appointments.

But once the boy appointed, he will probably become in due course a fully fledged library assistant. Here the librarians ought to impress most strongly on their committees, with the persistent backing of the Library Association, that no youth should be promoted to anything called a library assistantship, or, indeed, to any salary exceeding £50 a year, unless and until he has passed the technical examination of the Library Association. I must confess to some disappointment that so little has yet been accomplished in these directions.

I have watched with much interest and sympathy the praiseworthy attempts of the Education Committee of the Library Association gradually to build up the technical classes for librarians now centred at the London School of Economics. The experiment appears to me to have been wisely devised and ably conducted; and no small thanks are due to those public-spirited members who have week after week

given their time and thought to instructing the junior members of the profession. The number of students in the earlier years must at first sight have seemed discouraging. But we must remember that the total number of assistants employed by the twenty-one Borough Council Library Committees does not reach 300 all told; and that the aggregate total of library assistants employed about the whole 200 heaps of books in London, from the British Museum down to the humblest institute library, can hardly rise to more than a thousand. This would mean that the number of recruits entering each year would only be a few score. The classes, indeed, are now quite satisfactorily attended. If the whole of the persons engaged as library assistants in London in any sort of library were compelled on their appointment to go through a three years' course, I doubt whether we should find their numbers reaching one hundred. We must in practice be content with a few classes of a score or so each.

This being the case it seems to me clear that it is quite impossible to have a separate institution for the technical education of the library assistant, whether conducted by the Library Association or by any one else. Let

me say at once that I do not think that professional or any other kind of education should be managed entirely by a professional association. It is for the professional association to say what qualifications it wants; to conduct the examination which it exacts as a test of efficiency; and to give the necessary certificates. But education should be conducted by educational bodies, in definitely organised educational institutions, side by side with other students and in close conjunction with other branches of study. The professional association should be effectively represented on the managing committee; it should undertake a moral responsibility for getting the classes filled; and it may usefully give material aid by founding prizes and scholarships. With this combination of professional representation and educational management, and the inclusion of the narrowly specialised curriculum in an educational institution of larger scope, which has now happily come about, we shall soon have in London at any rate adequate opportunity for an efficient education of our library staff. What is now wanted is more funds, more scholarships, more encouragement from chief librarians and library committees,—and more students from the provinces. If these could be

founded, say ten or twenty scholarships of £50 a year each, to be awarded by the Library Association, to enable the best young assistants from the whole country to spend a year in London, we should find ourselves with one of the most efficient library schools in the world.

But we must beware of too narrow a curriculum. I confess that I am somewhat grieved to find that the examination of the Library Association is confined to the three subjects of Bibliography and Literary History, Cataloguing, and Library Management! This is all that is demanded before a man is certificated as a first-class professional librarian. I should have thought that this was rather the minimum to be exacted from the youths about to be promoted from the mere fetch and carry among the shelves. But for the first-class qualification in the profession of librarian we ought certainly to aim at a standard equal to that set for the "common or garden" general practitioner in law or physic. If we are ever to attain the goal of a university course of study for librarians, with the opportunity of taking a degree, in which some recognition is given of the librarian's special subjects—let me say at once that this is what I want to see accomplished in London—we must provide for

a much wider general culture. Assuming the young man who wants to make himself a first-rate professional librarian to start with an adequate secondary education, what should be his undergraduate course?

We may include, to begin with, the practical subjects contained in the Association's present scheme, put, I would venture to suggest, in somewhat extended order. Thus, leaving bibliography proper to the third year, we might require a thorough two years' study of the languages and literatures of England and one other country. With the bibliography of the third year should then be taken a more extensive but less minute survey of the literature of the rest of Europe. The principles of cataloguing, too, should be relegated to the third year, and with them should go just sufficient study of all the languages of Europe to enable the student to copy correctly a title-page in any alphabet of any modern tongue. So, too, library management, also relegated to the third year, might be expanded into a systematic training in public administration, with special application to the library service, its psychological and economic conditions, its history and its law, with comparative study of the service in other countries.

But there are other subjects which should be prescribed for the first and second years, to which we have assigned at present only the language and literature of England and one foreign country. Our future librarian should certainly have some acquaintance with history in its modern methods of research. He must know something about sources and how to form a critical estimate of them. He must be prepared to handle mediæval and foreign manuscripts and understand the mysteries of palæography. He ought, I venture to add, to have some training in economics, and he would do well to make at any rate a superficial study of the logic of the different sciences, so as to understand their methods of investigation and proof. Now, we can see at once that in demanding a university course of study for librarians and a university degree, we shall at least not be exposed to the taunt of there being nothing to teach. It will be easy enough to make out a very thorough three years' course quite up to the standard of the medical, legal, or any other faculty. The difficulty will be to get it all in within three years. But I think we could make out a suitable curriculum on the foregoing lines, which a diligent library assistant could get through in three or four years' work, even in

addition to his daily official labours. I should like to see the Association encourage such a course, adding it as a sort of first class to the present examination and rewarding by a substantial prize the first library assistant who successfully goes through it. We could, then, with some confidence appeal for its recognition in the arrangements for university degrees. If we claim for the librarian class a real professional status—if we want the library service to take its place with the medical service or the trained administrative service of the modern state—we must show that we think of it as a public service of no less importance and no less scope than these—we must, it is clear, expand our ideas of its co-ordination, development, and education.

CHAPTER VI

THE LION IN THE PATH

In the foregoing chapters, dealing with a few of the many branches of educational policy, I have assumed that we have, in London, both the desire and the capacity for administrative efficiency. But it would be idle to ignore the fact that, at this juncture, there are forces at work which may make the carrying out of any efficient policy absolutely impracticable. It is a peculiarity of educational politics that, in some countries, at some stages of their development, the clash of religious controversy rouses feelings of such intensity that the rival partisans would occasionally rather wreck the whole machine, waste all the millions of public money, and even let the little children suffer, than permit their respective adversaries to gain a seeming triumph. Keeping strictly to my standpoint as an administrator, I end this little book by a few words with regard to the fundamental conditions without which

London can have no efficient administration in education or in any other public service.

The first condition of administrative efficiency is the loyal co-operation of the whole administrative machine, from the humblest official up to the directing committee, in carrying out the purpose for which it is framed, *and no other*. If we consider the extreme case of absolute refusal, on the part of a member of the Civil Service, to execute the policy laid down by his official superior, or his setting himself deliberately to thwart it, we see at once that such conduct makes impossible any sort of efficiency. What is not so clearly perceived is the disastrous effect which is produced on the whole administrative machine, when any part of it seeks, not to fulfil the purpose of its being, but to twist or contort the law in order to bring about some other result. This is true no less of the controlling and directing committee-men than of the officials who serve them. When the law seeks to effect one result and the administrator another, the whole service suffers. The knowledge of any such duality permeates to the minutest ramifications of the organisation. Every officer, however humble his sphere, feels himself entitled to interpret the law and the administrative policy according to his own predilections; it may be

his own conscientious conviction as to what Parliament ought to have decided; it may be, on the other hand, the interpretation which he thinks likely to serve his personal interest. This anarchic influence will be intensified by the fact that the attempts made by this or that section of the administration to twist or evade the law cannot be openly avowed, and must remain (unless they pass into the phase of sheer rebellion, which is the negation of administration) in the plane of suggestion, favouritism, or intrigue. Nor is it only the majority in power, or their executive officers, who are demoralised. The members in a minority feel that, in addition to being outvoted at the polls, they are being outwitted in the committee room, and their resentment of this fraud adds acrimony to their enforced submission. They are tempted to adopt similarly illegitimate devices of covert obstruction, intrigue with officers of their own way of thinking, and illicit connivance with outside authorities. Thus, in such an atmosphere, whilst the salaried staff becomes honeycombed with suspicion, uncertainty, and disloyalty, the directing committee itself becomes the scene, not of honest working together and mutual enlightenment, but of "sharp practice" of one sort or another, mutual antagonism and

a partisan favouritism in promotion which, in its destructive results on administrative efficiency, is nearly as bad as pecuniary corruption itself. The Lion in the Path of London education is this peril of administrative perversion.

To avoid this grave disease of the administrative organism does not, I venture to think, involve any minimising of the rights of conscience of the individual citizen. It may be that the citizen is warranted, in the last resort, and in an extreme case, for protesting, not only by "passive resistance," but even by active obstruction, against a law which compels him to do something which he thinks wicked. But no citizen is compelled to become a candidate for election to an administrative body. Those who do seek election implicitly undertake to discharge—fully, fairly, and with a single eye to administrative efficiency—the administrative duties with which they ask to be entrusted. It was sound morality, as well as wise statesmanship, when the late Bishop Creighton advised the clergy of his diocese to serve on School Boards only if they felt justified in making the board schools as efficient and as genuinely successful as they could. To seek election to a School Board with the intention of checking its work or thwarting its success was, as the Bishop

sternly enjoined his clergy, contrary alike to honesty and to the very principles of democratic government. The same considerations apply to the Education Acts of 1902 and 1903 as to that of 1870; and they apply with equal force to perversions on the one side as to those on the other. But it is especially because of the demoralisation of public administration itself, which any such duplicity inevitably produces, that the administrator must be the first to protest against any attempt to thwart or pervert the statutes which he has to administer.

From this standpoint of administration it is a merit of the Acts of 1902-3 that, *so far as religious teaching is concerned*, they simply maintain the existing arrangements. They make no change whatever, and they require no change, in the religious instruction given in any London school. In the 498 board schools educating 71 per cent of all the children, there will go on the same "undenominational Christianity," according to the widely accepted syllabus of the "Compromise of 1871," which the County Council will certainly not dream of disturbing. In the 331 Anglican schools, with their 21 per cent of the children, the Church Catechism and the Book of Common Prayer will continue to be taught. The 100 Roman Catholic

schools will go on providing their 4 per cent with the doctrines of their own Church. The 15 Wesleyan schools and the 7 schools of the British and Foreign School Society, with their 1 per cent of the scholars, will persist in giving exactly the religious instruction they prefer. The 9 large Jewish schools, with about the same proportion of the total, will inculcate their own faith and observe their own festivals. Exactly the same continuity is preserved to them all, and to any secularist or nondescript school. Whether this freedom in diversity represents an ideal arrangement or not, it has the great merit of existing; of having worked smoothly and well for a whole generation; and of exciting practically no objection among the children, the parents, the teachers, or, in fact, any one actually connected with the working of the schools. Pending the decisive settlement by Parliament, grave indeed would be the responsibility of the administrator who would, whether covertly or avowedly, seek to disturb the *status quo*.

The diversity in schools involves, as every practical educationist knows, some segregation of teachers according to their views on the deepest problems of ethics and theology. It is easy for those who do not face the problem to earn the cheap applause of the unthinking by

denouncing all religious tests. As a matter of fact, in the London board school of to-day, the teachers are appointed to give religious instruction on a syllabus involving the existence of a Personal Deity, the Divinity of Christ, the Incarnation, the Resurrection, Heaven (if not also Hell), and other highly controversial theological dogmas, in which many persons in the teaching profession do not believe. Even the Bible cannot be read as the Word of God without offending some consciences. In one or two London board schools, by a convenient evasion to which no one objects, the creed expounded is not that of Christianity at all; the Gospels are implicitly put on a level with the Koran; and Jewish teachers are deliberately selected in order that they may expound the Jewish Bible to Jewish children, for whose convenience the whole school is closed on the Jewish festivals. It is plain that in Roman Catholic, Anglican, and Wesleyan schools there is, for the most part, a similar selection. This inevitable segregation of teachers, or, as some persons choose to call it, this use of a religious test, is neither established nor increased by the Acts of 1902-3. There ought to be no exclusions, either by law or trust-deed. To put any such invidious distinctions on record is inconsistent with the spirit of what is essen-

tially a public service. But as a mere matter of administrative practice, whenever we have Roman Catholic or Protestant or Jewish children segregated in groups, it is convenient to have each group taught, at any rate as far as some of the staff of each school are concerned, by teachers of its own faith. So long as the law allows the continued existence of denominational schools, it is difficult to see how this segregation of teachers can be avoided. It cannot surely be suggested that men and women should be required, or even encouraged, to give ethical or religious instruction in which they disbelieve—that they should day after day stand before their pupils and inculcate the supreme duty of veracity, with a more or less carefully hidden lie on their lips. Nor is this position created by the existence of schools connected with different ethical and religious systems. If we made all schools "undenominational," or even "secular," and imposed one particular form of moral instruction on all of them alike, we should necessarily have to couch this in some phraseology of scientific, metaphysical, or theological exposition of the order of the universe; and by any such uniformity, inevitably by implication either theistic or agnostic, we should be erecting a far more restrictive test than is involved by the present

diversity. We should, in fact, in that case exclude, not from this or that school only, but from the whole teaching profession, all those who could not conscientiously swallow either the positive or the negative implications of the one official formula for the time being. The diversity of creed of the parents and the children being accompanied by an equal diversity of creed among those who wish to be teachers, the actually existing diversity of schools involves, as a matter of fact, the minimum of exclusion on account of ethical views or religious beliefs, and thus makes the teaching profession compatible with the widest practicable variety of opinions.

What the Acts of 1902-3 do, as regards the voluntary schools, is neither to create nor to alter the existing diversity, nor yet to establish any new test, but, in consideration of the provision of the sites and buildings free of cost to the public, to make the salaries of the teachers and the current expenses of education independent of the charitable subscriber, and to charge these expenses to the public purse. Whether or not this is financially a good bargain for either party it is not for the administrator to discuss. Educationally, as Dr. Macnamara has consistently pointed out, it is pure gain. We cannot afford

to go on trusting the educational efficiency of 218,000 London children to the whims and vagaries of individual charity. Nor need the ratepayer shrink from the burden. It so happens that the London County Council will make an actual profit by the transaction. The whole annual cost of the voluntary schools hitherto borne by subscriptions is only about £82,000 per annum, whereas the net increase in the Government grant to London, which becomes payable only when they are taken over (and though calculated on the entire rateable value and child population, is expressly stated to be in lieu of the Special Aid Grant hitherto paid direct to voluntary schools), is no less than £190,000 per annum. The financing of the voluntary schools and the substitution of the County Council for the School Board as the education authority ought to mean therefore, not an increase, but a reduction of the rate by a halfpenny in the pound. It is true that to bring up to the same educational level as the best 100 board schools the 25 per cent of London's schooling which is now below the mark will require a gradual increase of expenditure during the next few years. It is, however, to be noted that the whole of this increase will be spent on the secular education, not on the

religious instruction; that it will be required alike in the defective board schools and the defective voluntary schools; and that it will be spent in all cases directly by the London County Council, and as that body, not the managers, may choose.

There are those who advise the electors to refuse to the voluntary schools any support from the rates when, in a few years' time, this becomes necessary; and who are willing to see them close their doors if their present subscribers will not keep them efficient. Whether or not this would be fair, it is a mere matter of financial administration to point out that it would be ruinous to the London ratepayer. The present 472 Anglican, Roman Catholic, Wesleyan, British, and Jewish schools stand on 150 acres of London land, nearly all freehold, worth, on the lowest computation, as land alone, something like £2,000,000. Their buildings, though often defective, are actually serving over 200,000 children, and they have to be rebuilt, whenever rebuilding is necessary, at the private subscribers' expense. We cannot arbitrarily take away from their present legal owners these sites and buildings, worth a rental of at least £150,000 a year, which the Act places gratuitously at our disposal.

The cheapest course for the ratepayer is to get them rebuilt, where necessary, by the present subscribers. To discard them, relegating them to use as Sunday schools and Bible classes (which would in most cases satisfy their trust-deeds), and to build "provided" schools for 200,000 more children, would cost the London ratepayers over £5,000,000. It would be simply impossible for the London County Council to add five millions to its already heavy capital commitments within the next few years.

There are some who imagine that the powers of control over the voluntary schools which the new Acts give to the London County Council are inadequate. I do not think that any one who knows the facts is under any such delusion. My own impression, based on some knowledge of the Council, is that this body knows how to make effective any control which is entrusted to it. What with its absolute authority over secular education, and its unique opportunities of training teachers and pupil-teachers; what with its fixing the qualifications and salaries of every grade of teachers in every school, and the annual increments of salary, which it can give or withhold at its will; what with its carefully considered confirmation of every teacher's appointment, and its putting them

all as its own officers on its own salary lists; what with the opportunities of evening employment which it has to offer to them, and the unparalleled field for promotion which it controls; what with its supply of approved books and apparatus from its own central store, and the teaching of special subjects by its own peripatetic instructors; what with its extensive staff of school inspectors, on whose reports the teachers' increments of salary will depend, and its no less influential staff of dilapidation surveyors, with whose requirements the foundation managers will have to comply, I shall be surprised if the London County Council finds any administrative difficulty in getting all the power it desires. Do we imagine that any of the Churches, however potent in its own sphere, is going to be able to "draw out Leviathan with an hook" or "bore his jaw through with a thorn"?

These objections to the Acts of 1902-3 are, as is now plain, not the serious point of the attack. In the end the person with whom the practical administrator stands face to face is the conscientious objector. To consent to give under public auspices any sort of ethical or religious instruction which earnest men and women deem erroneous, is, in 1903, as in 1843 and 1870, to stir

up a storm of passionate conviction. Against the full force of this conviction, electoral or financial considerations, the efficiency of the physical and mental training given to the children, or even the continuance of any publicly organised and subsidised education system at all, are as dust before the whirlwind. To the fervent Protestant it is an infamy that the Government should seem to support the teaching of Roman Catholicism. The earnest Free Church minister is wounded in his soul at any public countenancing of the errors of Anglicanism. To the conscientious Roman Catholic, mere participation in the indiscriminate reading and discussion of the Bible which goes on in all Protestant schools is to incur the damnable guilt of heresy, whilst the ordinary school history-book, with its Protestant version of the Reformation, is a blasphemy. To many a devout Anglican, incredible as it seems to his Nonconformist brethren, the "undenominationalism" of the board schools is an evil monstrosity of the most pernicious tendency. The exclusion of every shred of religion, which the Comtist and the Secularist would prefer—the turning of God and the Bible out of all the public schools of the land—is vehemently objected to by every one else. It is in vain that the administrator points out that, as each denomination

pays its own share of rates and taxes, each may be regarded as, in effect, paying only for the particular schools which do not offend its conscience. Those of us who have been brought up to regard all truth as relative to the person who believes it are apt altogether to underrate the horror and offence given to many an earnest soul by the very notion of deliberately "subsidising error." To all who feel deeply on such questions there comes a solemn parting of the ways—a point at which, at whatever hazard of personal or class or party interests, they resolutely refuse to participate in sin or to co-operate in bringing about a disastrous calamity to the community.

To the problem thus raised I know of no complete solution dealing evenly with all the conscientious objectors. The administrator can only answer, as does the practical man, that the State, with all its thousand working compromises, must somehow go on. The dilemma we are in is that the possession of conscientious feelings of this kind is no monopoly. It is not even confined to the conflicting bands of religionists. We must honour the motives of these idealists, and admit their several rights to struggle one against another in the Parliamentary arena for the triumph of what they respectively

think of supreme importance. But they, in their turn, must recognise the existence of equally conscientious idealists, who will fight quite as hard for that on which, as it seems to them, the salvation of the nation depends. There are whole ranges of human thought and feeling, whole regions of our life in this world, indispensable to any education that is worthy of the name, which we cannot deal with in our schools without candidly accepting the principle that the State, if it is to educate at all, not only may, but frankly must, "subsidise error"; that is to say, must accept as the basis and vehicle of its instruction that which *some or other* of its members deem to be error. Meanwhile, as is surely plain to every one, we must not allow these disputes to interfere with the current administration. In the interests of the children themselves, if not of religion, we must call for a "Truce of God" in the schools. I am glad to think that there are fervent educationists to whom the point of conscience comes in the reflection that, whilst the various other conscientious objectors are disputing as to *how they would like to alter the existing status quo in the schools*, there are 800,000 London children waiting to be taught. To these particular conscientious objectors, who will make a stand for

their faith, and with whom will, I believe, go the great body of London citizens, the supremely important thing is not whether this or that ethical or theological form shall be used as the medium of instruction for children who belong to this or that denomination, but that none of these 800,000 children, whatever their creeds, shall be denied the mental, moral, and physical training that we all agree must be given to them, up to whatever standard London can afford; that in all this great city, from this time forth, there shall grow up no human soul in the blindness of ignorance; that henceforth no spark of genius shall for lack of opportunity be lost to the world; and that, whatever fate may be in store for the British Empire, London, at any rate, in bringing its whole population up to the highest practicable efficiency, this day shall do its duty.

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ENGLISH LOCAL GOVERNMENT

(THE OLD ORDER)

By SIDNEY and BEATRICE WEBB

ADVERTISEMENT

THIS work, which represents the fruits of six years' investigation into every part of English Local Government, will deal with its development between 1700 and 1835. Avoiding discussion as to the origins of English local institutions, or even as to their growth during the Middle Ages, it will describe, in vivid detail, the development of structure and function during the eighteenth century, which led to the reforms of 1832-35, and on which the existing system of Local Government in England is based.

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By SIDNEY AND BEATRICE WEBB

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IN this work the authors of "The History of Trade Unionism" deal, not with the past, but with the present. They describe, with the systematic detail of the scientific observer, and in the same objective spirit, all the forms of Trade Unionism, Factory Legislation, and other regulations of industry to be found in the British Isles. The whole structure and function of Labour Organisation and Restrictive Legislation in every industry is analysed and criticised in a manner never before attempted. The employer in difficulties with his workmen, the trade unionist confronted with a fresh assault upon his standard rate, the politician troubled about a new project for Factory Legislation, the public-spirited citizen concerned as to the real issues of a labour dispute, will find elucidated in this work the very problems on which they are thinking. It is a storehouse of authenticated facts about every branch of the "Labour Question," gathered from six years' personal investigation into every industry in all parts of the kingdom ; systematically classified and made accessible by an unusually elaborate Index.

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Finally, it should be stated that the authors, in the Preface, describing their investigations, propound a new view as to the scope and method of Political Science.

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